Speech act theory in support of idealized warning models

Adelia Carstens, School of Languages, University of Pretoria, Pretoria 0002, acarsten@postino.up.ac.za

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ABSTRACT

In applied communication studies warnings (as components of instructional texts) are often characterized in terms of criteria for effectiveness. An idealised model for warnings include the following elements: a *signal word or label* appropriate to the level of hazard; a *hazard statement;* references to the *consequences* of failure to comply, and an *instruction* on what to do or not to do to avoid the hazard. This contribution is firstly aimed at demonstrating the comprehensiveness of the Wogalter model by exploring the semantics of the speech act verb WARN and the verbs underlying the constituent elements of the model, namely POINT OUT/ALERT, INFORM/REMIND and INSTRUCT. The analyses depart from speech act theory, making abstractions at different conceptual levels to demonstrate that WARN is a complex speech act subsuming lower level speech acts such as POINTING OUT/ALERTING, INFORMING and INSTRUCTING. Secondly, the model is used to analyse and evaluate actual warnings collected from information sheets for hair-dryers, indicating the heuristic value of combined insights from document design and speech act theory.

1. Introduction

In a contribution by Schellens on situating document design within the framework of communciation studies he claims that document design has, since its origins, been closely linked to speech act theory in linguistics (2000: 23). The link is constituted by the fact that the goal of the writer (the overall purpose of the text) coincides with a particular speech act.

In mainstream literature on document design three broad textual categories are defined on the basis of their overall function or purpose, namely *informative, instructional* and *persuasive* (cf. Hoeken 1998: 11). These text types are often

composed of textual elements (sometimes referred to as 'information types' - see Schellens & Maes 2000: 164) that may be functionally different from the overall or generic document type. Instructional texts could, for instance, comprise of the following functional information types – often presented in the format of separate modules: background information, product information, technical information, system information, procedural information, exercise information, problem and solution information, relational information, search information, reference information and warning information. In some texts the functional hierarchy is even more complex: procedural modules themselves could comprise of functionally different components, such as goal information, starting information, result information (informative) and action information (instructional). Elling (1991: 109) does not seem to distinguish between text type and information type. He equates the notion of 'communicative purpose' (pertaining both to a text as a whole and smaller functional units included in such a text) with the notion of 'illocutionary act' in speech act theory. Safety specifications in industry would, according to Elling (1991:108), comprise of the following communicative (illocutionary) purposes: advise, determine, inform, dissuade, elucidate, forbid, prescribe and warn.

Within the framework of document design the motivation for a functional typology would primarily be determined by correlations between *textual characteristics* (content, structure, style, visual presentation) and *usability* (effectiveness). Linguists, on the other hand, may be particularly interested in the relationship between sets of micro-textual elements and configurations of linguistic functions or meanings within a particular model or theory. From a deductive angle linguistic models could provide templates for judging the theoretical adequacy of existing models of information design.

This paper is *firstly* aimed at providing linguistic support for classifying warnings as a complex functional information type in instructional documents. An idealised model for warning design (with special reference to content), as designed by cognitive psychologists and human factors engineers (cf. Wogalter et al. 1987), and adhered to by document designers (Maes et al. 1998), serves as the point of departure. A *secondary* objective is to evaluate a systematically collected corpus of warnings by applying the model together with a set of mediating conditions adapted from Maes et al. (1996:162).

2. What is a warning?

2.1 Views from industrial communication and document design

Industrial and business communication studies characterize warnings in different ways. Compare the following (bold, mine):

> warning devices are required to **call the attention** of the operator to some action which he has to take in relation to the equipment (De Greene 1970: 313).

> A warning signal **captures** the operator's **attention** freeing up his central processor to use its decision and short-term memory capability to retrieve appropriate safety responses from long-term memory and subsequently produce the necessary responses (Robinson 1977: 58).

> […] to **alert** the consumer to any hazardous characteristic of the product when they are properly designed and presented and to **motivate** and **instruct** the consumer so that necessary and appropriate precautions can be taken to avoid injury (Abraham 2001).

> warnings are specific stimuli which **alert** a user to the presence of a hazard, thereby triggering the processing of additional information regarding the nature, probability, and magnitude of the hazard (Lehto & Miller 1986: 16).

> A warning is appropriate when it **informs** in a clear; concise; and unambiguous manner (Solomon 1995:9).

> […] a message intended to reduce the risk of personal or property damage by **inducing** certain patterns of behavior and **discouraging** or **prohibiting** certain other patterns of behavior (Dorris & Purswell 1978: 343).

By analyzing these definitions a progression can be seen from simply ALERTING (calling attention), to INFORMING, INSTRUCTING, and INDUCING/PROHIBITING.

These speech act verbs seem to coincide with the elements identified by Wogalter et al. (1987: 599) and sanctioned by Maes et al. (1998: 126-127) for effective warnings in documents:

Warning element	**Corresponding speech act** (labels added by the author of this contribution)
A signal word or label appropriate to the level of hazard, e.g. WARNING, DANGER, CAUTION	ALERT
A hazard statement mentioning the dangers or the risks involved, e.g. wet floor, falling stones, unprotected blade, etc.	INFORM
An indication of the consequences of failure to comply, e.g. personal injury or product damage/loss	INFORM
An instruction on what to do or not do to avoid the hazard (either a precaution or a remedial measure), e.g. "Do not use in or near water".	INSTRUCT (PROHIBIT/ INDUCE)

Table 1: Elements of an effective warning and their corresponding speech acts

Although the effectiveness of the model has been tested by human factors engineers and verified by document designers it can, however, not be used as a measuring rod across the board without reference to the context of use. One should keep in mind that safety information (especially in regard to manuals for consumer products) may have other purposes than warning against hazards, e.g. to address product liability issues (cf. Showers et al. 1992: 22). This contribution can merely purport to measure the *comprehensiveness* of warnings against the idealised model outlined above. *Effectiveness* in the broad sense should be evaluated with reference to criteria determined by actual use and user-perceptions in real-world settings (Showers et al. 1992: 22; De Jong & Schellens 1997).

Against this backdrop I turn for support to the theoretical discipline from which document typology has originated, namely speech act theory in linguistics.

2.2 Support from pragmatics

2.2.1 Introduction

As stated above, text typology in document design is largely indebted to speech act theory. However, document designers do not - as a rule - make extensive use of the analytic tools provided by speech act theory. One of the reasons may be the poor correlation between the subset of speech acts that are relevant to a particular communicative purpose in document design (e.g. safety instructions) and the categories

of speech acts defined in speech act typologies (cf. Elling 1991: 110). In this contribution I do not attempt to draw parallels between functional text types in document design and classes of speech act verbs in speech act theory. My primary objective is to invoke the semantics (i.e. the conceptual content) of the verb WARN and its cluster of speech act components in support of the above model for the design of warning content.

2.2.2 A semantic analysis of warnings

According to speech act theory making an utterance is an act, and this act is accompanied by "an amalgam of intentions, assumptions, and feelings involved" (Goddard 1998: 137). Although almost the entire literature on speech acts focus on the so-called speech act verbs as "carriers" of the speech act with its concomitant intentions, assumptions and feelings there is not a one-to-one relationship between the semantics of speech act verbs and the differences between illocutions (cf. Vanparys 1996: 17). This view coincides with an observation by Searle in the late seventies:

> Differences in illocutionary verbs are a good guide but by no means a sure guide to differences in illocutionary acts (1979: 2).

However, Anna Wierzbicka (1987: 16) - one of the prominent names associated with speech act theory - does not seem to regard the focus on speech act verbs as a problem for the theory. She puts this emphasis in perspective when saying that "the primary function of speech act verbs consists in interpreting people's speech acts, not in performing speech acts" (Ibid.). Goddard (1998: 137) shares the view that the study of speech acts do not necessarily involve the identification of a class of verbs (speech-act verbs), yet regards a taxonomy of speech act verbs as a useful reference point for illocutions.

In terms of the present study, the above perspective is useful: even if an utterance or a set of utterances are not explicitly labeled by a signal word such as WARNING a speech act value may still be assigned on the basis of (other) textual features. It could therefore be claimed that the speech act verb WARN merely serves as a convenient label for a textual function. In the paragraph below this function is analysed in detail.

Anna Wierzbicka's (1987) *English Speech Act verbs: A Semantic Dictionary* proposes detailed and exhaustive paraphrases for each speech act verb, seeking to nail down the "full semantic content" so that the similarities and differences among them are made explicit (cf. Goddard 1998: 145). Wierzbicka (1987: 17) views speech act verbs (being representatives of speech act categories) as 'bundles' of components. Every component represents a certain state or 'posture' of the mind of the speaker. Three kinds of components recur in virtually all the explications: *Firstly*, there is a component in the frame 'I say X' (SAY is actually the only speech act verb used in the metalanguage of her definitions), which is called the **dictum**, and *secondly*, a component in the frame 'I say this because...', which is called the **illocutionary purpose**. The dictum represents the overt content of the utterance, whereas the illocutionary purpose represents the speaker's (purported) intention in making that utterance. Apart from the dictum and the illocutionary purpose certain **preparatory conditions** (i.e. assumptions about what the speaker is thinking) are explicated by making use of formulas such as "I assume that …" and I "think that …".

The premise from which I depart is that the analysis of the speech act verb WARN should ideally provide insight into the underlying conceptual structure of warnings, which on their part may support or suggest an ideal model for warning design. The focus on the **illocutionary purpose** of the speech act verb WARN as well as the other speech act verbs that have been identified above as the core components of an effective warning, namely, ALERT (POINT OUT is the speech act verb closest to alert that is entered in Wierzbicka's dictionary[1]) , INFORM and INSTRUCT:

> **warn** (Wierzbicka 1987: 177)
> I think you might do something that would cause something bad to happen to you.
> I say: (...)
> I say this because I want to cause you to be able to cause that bad thing not to happen to you.

> **point out** (Wierzbicka 1987: 342)
> I know that there are many things that one can perceive about X when one thinks about it.
> I want to say now one thing that I perceive.
> I say: X.
> I think this is something that other people can perceive if they think about it.

I think that other people may not perceive it (If I don't say anything).
I say this because I want to cause other people to perceive it.
I think it will be good if people think about it.

inform (Wierzbicka 1987: 301)
I assume that you want to know things about X.
I know something about X that I think you should know.
I assume I should cause you to know it.
I say: (…)
I say this because I want to cause you to know it.
I assume that you will understand that this is not something that could be untrue.
I assume that I will cause you to know it by saying it.

instruct[2] ((Wierzbicka 1987: 54)
I assume you want to know what things you should do.
I assume that I am someone who should cause you to know it.
I say: you should do these things, one after another.
I say this because I want to cause you to know what you should do.
I assume that you will want to do what I say you should do.

Although these definitions provide the researcher with useful templates for mapping linguistic functions onto components of content they are not necessarily comprehensive or consistent. In my opinion the illocutionary purpose of WARN, for instance, has not been fully covered. Compare the following definition of **warn** by the *Oxford Advanced Learner's Dictionary* with Wierzbicka's account:

> to inform sb in advance of sth, esp possible danger or sth unpleasant that is likely to happen, so that they can try to avoid it.

Wierzbicka's semantic characterization should ideally have been formulated as "I say this because I want you to know this in order to cause you to be able to cause some bad thing not to happen to you."

The propositional structures in columns 2-5 of Table 2 below depart from Wierzbicka's definitions, yet are specifically aimed at giving give a systematic account of the illocutionary purposes of the above verbs:

	WARN	**ALERT/POINT OUT**	**INFORM**	**INSTRUCT**
Illocutionary purpose of S	• to ***cause*** H • to ***think*** of sth • and ***know*** sth • to ***do/not do*** sth • to ***cause*** some bad thing • ***not*** to ***happen*** to H	• to ***cause*** H • to ***think*** of sth	• to ***cause*** H • to ***know*** sth	• to ***cause*** H • to ***do*** things (one after the other)

Table 2: Summary of the Speaker's illocutionary purpose and Hearer's purported mental state concerning the speech acts WARN, POINT OUT, INFORM and INSTRUCT.

According to this schematization, the embedded predicate structures of the verbs in question may be formalized in the following way (where S = speaker, H = hearer; and X, Y and Z are slots for arguments other than S and H):

WARN = (cause S,H (think H,X & know H,X (do ∨ ~do H,Y (cause H (~ happen Z)))))

ALERT (POINT OUT) = (cause S,H (think H,X))

INFORM = (cause S,H (know H,X))

INSTRUCT = (cause S,H (know H,X (do ∨ ~ do H,Y)))

By departing from speech act theory and invoking predicate logic the four criteria for effective warnings identified by Wogalter et al. (1987) could be substantiated. Moreover, the analyses suggest that WARN is a complex speech act which logically subsumes a set of less complex acts, namely POINTING OUT/ALERTING, INFORMING and INSTRUCTING.

In section 3 below the idealised warning design model introduced by Wogalter (1987) and supported by speech act theory are administered as diagnostic criteria for evaluating the comprehensiveness of safety instructions in manuals for hair-dryers.

3. Application: the comprehensiveness of safety instructions in manuals for hair-dryers

A relatively small database of warnings was compiled by scanning the safety instructions for 10 different brands of hair-dryers currently on sale at retail stores. These were evaluated by qualitative and quantivative analyses departing from the components of the idealised model for warnings, represented by the speech acts ALERT, INFORM and INSTRUCT.

3.1 ALERT/POINT OUT

Certain document designers make a basic distinction between the act of warning and the content of a warning (Maes et al. 1998). The act of warning is also known as a "rhetorical warning" and is represented by devices such as lexical labels (WARNING, DANGER, CAUTION, ATTENTION, IMPORTANT); pictograms, intensifyers (*never* and *always*); typography (uppercase, slant, weight, font size, font type, etc.), the use of colour, punctuation (use of exclamation marks) and layout (cf. Maes et al. 1998: 127).

According to The SABS Code of Practice entitled *Instructions for the use of consumer products - Electrical appliances* (9.1 of SABS 0317:1997) the entire 'warning notice' in instructional manuals for electrical appliances should be emphasized "by the use of larger or different print (or both) and by the use of symbols or colour (or both)".

The safety information in manuals for hair-dryers only partially comply with these requirements. The primary alerting devices used are lexical labels (usually in capital letters) and certain symbols (pictograms).

Table 3 below summarizes the types of alerting devices used in the safety instructions for hair-dryers:

Type of label		Occurrences in database
Lexical labels	**Warning**	DANGER, WARNING, CAUTION
	Calling attention	ATTENTION!, IMPORTANT, IMPORTANT SAFEGUARDS, ELECTRICAL SAFETY POINTS
Intensifiers		always, never
Punctuation		Exclamation marks
Pictograms		
Typography		uppercase, bold, underlining

Table 3: Lexical labels and pictograms acting as rhetorical warnings

3.1.1 Lexical labels

According to Wogalter et al. (1994: 547) "most standards and guidelines on warning design recommend the inclusion of signal words in labels and signs to alert people that a hazard is present and to incidate the degree of danger involved." SABS 0317:1997 (9.3) explicates this hierarchy as follows:

> When alerting users, instructions shall use the following hierarchy of "signal words", in accordance with 6.4.8 of ISO/IEC Guide 51:
>
> DANGER – to call attention to a high risk
>
> WARNING – to call attention to a medium risk
>
> CAUTION – to call attention to a low risk.

In the labeling of safety information in manuals for hair-dryers little evidence of compliance with the above-mentioned international standards was found. Only one manual complies with the grading hierarchy: In this manual instructions referring to avoidance of the "Risk of Electrocution" (hazards regarding, for instance, use of the appliance in or near a water source) are listed first, and bear the signal word DANGER. A second group of instructions are labeled WARNING, followed by a description of consequences: "To reduce the risk of burns, electrocution, fire or injury to persons." This latter set of instructions clearly refer to lesser hazards, such as using outdoors, using while sleepy, using the appliance for other purposes than drying hair, etc.

The following figures seem to indicate a very loose interpretation – if not a disregard - of safety standards:

- In six out of ten manuals no signal words - apart form section headings such as IMPORTANT SAFEGUARDS, ELECTRICAL SAFETY POINTS and IMPORTANT - are used to label or to grade safety information.
- Two manuals use the label CAUTION to warn against using the hair-dryer in or near a water source.
- One manual uses ATTENTION! to label safety information relating to contact between water and electrical current.

3.1.2 Safety signs

International warning design standards and guidelines recommend that a signal icon (exhibiting an exclamation point surrounded by a triangle) accompany the signal word in warnings (Wogalter et al. 1994: 548). The signal icon's main utility is to attract users' attention to the warning (Laughery et al. 1993; Young 1991).

Also in this respect the manuals for hair-dryers display a disregard for the principles of effective warning design:

- In four of the manuals no warning signs are used for alerting purposes.
- Only one example of a true warning signal was found, namely that of an electrical current surrounded by a triangle (Carmen Classic 1200), captioned by the signal word DANGER, plus an explication of the risk (Electric Shock Risk):

- In five manuals the following pictogram prohibits use in or near water:

- One manual prohibits the spraying of hair laquers and fixing sprays whilst the hair-dryer is in use by means of the following sign (which does not occur in SABS 1186-1:1997):

Signal icons depicted in black circular frames with diagonal strokes from top left to bottom right across the picture differ semantically from true warning signs (a triangular frame with a pictogram) in that cirular pictograms ALERT and INSTRUCT the user (e.g. "do not use near water"), whereas triangular pictograms ALERT and INFORM him/herabout the type of hazard (e.g. "electrical current"). Compare in this regard the differences between the explanatory formulae for these two types of signs as they appear in SABS 1186-1:1997, *Symbolic safety signs* (34- 53). Circular pictograms are labelled "prohibitions or mandatory actions" and are defined by means of the formula "X prohibited"; whereas triangular pictograms are labelled "warnings", and are defined by the formula "Beware of X".

Although Wogalter et al. (1994: 554) could not find any effect of signal icons on users' behaviour (the main function of pictograms seems to be attracting people's attention) they concede that "additional research is necessary to confirm this assertion."

3.2 INFORM

From industry's point of view "a warning is appropriate when it informs" (Solomon 1995: 7). However, Solomon does not make clear what he means by "inform". Does a warning need to include information about the hazard *as well as* information about possible negative consequences of non-compliance? The following paragraphs deal with these issues.

3.2.1 Hazard information

The term 'hazard' is problematic. Does it refer to the cause of an unwanted situation only, or to the cause as well as the effect (the consequence)? The *Code of Practice* for instructions relating to electrical appliances (SABS 0317:1997), issued by the SA Bureau of Standards, is unclear about the denotation of 'hazard'. From the following explanation one may deduce that only consequences are referred to: Clause 11.2 b says about warning signals that "It is important that such signals […] b) be emitted in good time to allow the user to take action to avoid hazard or malfunction". However,

according to Laughery and Hammond the term refers to the causes of an unwanted situation:

> *Hazard* is defined as a set of circumstances that may result in injury, illness or property damage (1999: 4).

This definition is in line with the Oxford Advance Learner's Dictionary's definition of the lemma **hazard**, namely "a thing that can be dangerous or cause damage; a danger or risk". 'Hazard' will therefore be used in this contribution to refer only to the cause of unwanted negative effects with regard to people (e.g. a source of water near an electrical appliance, which may cause electrocution), the environment or the product.

In the manuals studied the term seems to have been used without a clearly delimited terminological meaning. One manual, e.g. contains the following safety instruction: "to avoid burn hazard, do not let heated surface touch bare skin." Moreover, instruction sheets for hair-dryers in general provide very little explicit information on the hazards that necessitate individual instructions. Only the following two explicit references occur in the hair-dryer database:

(1) *Hair lacqers and fixing sprays contain flammable material.* Do not spray whilst the hairdryer is in use (Safeway Professional 1800W)

(2) *Unit is hot when in use.* To avoid burn hazard, do not let heated surface touch bare skin (Remington)

The reason for omitting explicit hazard information is that such information is often embedded in or presupposed by the instruction. Compare the following examples from the hair-dryer database:

Instruction	**Hazards/causes of malfunctioning as presuppositions**
Do not touch hot surfaces. Use handles or knobs (Fenici Hair Care Set)	Hot surfaces in contact with human skin
Packaging material, e.g. plastic bags should be kept out of the reach of children (WIK formula 600 Quattro)	Packaging materials such as plastic bags in the hands of children
Do not use in the bathroom or near the bathtub, basin or any other source of water (Safeway Professional)	Contact between water and electricity

When drying your hair in rollers, do not allow any clips, hair pins, etc, to project more than 10 mm (finger width) so as to ensure that they cannot come into contact with the live parts inside the appliance (Fenici Hair Care Set)	Contact between metal pins in rollers and the "live" parts of an appliance

Table 4: Hazard statements occurring as semantic presuppositions in instructions

3.2.2 Information about the *consequences* of non-compliance

The term 'risk' is mostly used to refer to the possibility or likelihood of negative consequences occuring as a result of a certain action or failure to take action (e.g. *the risk of electrocution/burns/injury*). Also risk information is presented sparingly in manuals for hair-dryers. From a total of 147 safety instructions only 32 include explicit references to consequences. In a number of cases consequences are stated for an entire category of safety instructions, e.g.:

- In the manual of the Sansui TS 336 one set of 5 instructions is covered by the following explication of consequences: *To reduce the risk of electrocution*
- A further set of 8 instructions in the same manual is preceded by the preamble *To reduce the risk of burns, electrocution, fire or injury to persons*

According to Maes et al. (1996: 162) explicit or elaborate risk information should be considered when:

(i) *Users do not find the risk to be predictable.*
(ii) *Users think that the risk may not be applicable to them.*
(iii) *The risk may be serious.*
(iv) *The prior knowledge of the user is not sufficient to calculate the risk.*

The application of these guidelines is, however, not unproblematic. Consider the following examples from the hair-dryer database:

(3) *Do not use outdoors* (Fenici Hair Care Set)
(4) *Do not use with accessories other than those supplied with the appliance* (Safeway Professional 1800W)
(5) *Do not allow the flex to come into contact with the air outlet during use* (Fenici Hair Care Set)

(6) *Do not wrap/wind the cord around the hair-dryer* (WIK Formula 600 Quattro, Braun Cosmo A 1000, Safeway Professional 1800W)

(7) *Never place the appliance on a soft surface such as a bed or couch. Always place on a level surface* (Sansui TTS 336)

(8) *Never use while sleepy or drowsy* (Sansui TTS 336)

(9) *The appliance should not be used for any other purposes than herein described* (WIK Formula 600 Quattro, Safeway Professional 1800W)

A first question that comes to mind is whether these instructions are aimed at enabling the user to avoid personal or product risks (personal injury or product damage/malfunctioning), or both. A second question is to what extent the implied risks are predictable for users, and how serious these risks are.

Reader research is the only reliable way to ascertain when and how to elaborate on risks. Through consultation of authentic readers it could be ascertained which risks are not predictable for all users, and when and where consequences of non-compliance should be explicated to enable the user to calculate the risk accurately. Reader research may also provide insight on the correlation between perceived sincerity of the consequences of non-compliance and the nature of the risk.

3.3 INSTRUCT

3.3.1 Induce and prohibit

According to Dorris and Purswell (1978: 343) the purpose of instructions is either to INDUCE or PROHIBIT particular actions or patterns of behaviour. A theoretical question is whether DISCOURAGE and PROHIBIT should be regarded as speech act predicates (primitives) of INSTRUCT. The answer seems to be "no" as these speech act verbs are two-predicate clusters just like INSTRUCT. They are mere realizations of the different options contained in the predicate semantics of INSTRUCT (please note that predicate analysis does not provide for semantic specifics that would distinguish between meanings):

INSTRUCT = (cause S,H (know H,X (do ∨ ~ do H,Y)))

ENCOURAGE = (cause S,H (know H,X (do H,Y)))

DISCOURAGE = (cause S,H (know H,X (~ do H,Y)))

3.3.2 Instructions: the core of safety information

The core of safety information on instruction sheets for hair-dryers is constituted by instructions (imperative sentences). This mode of presentation is defensible as it coincides with typical user-behaviour: "[M]ost people purchase and use products to perform tasks and accomplish goals, which typically do not include learning both the product's composition or its hazard characteristics" (Frantz et al. 1991:160). In cases where compliance with the instruction is crucial to avoid a serious risk, it is therefore important that hazard and risk information should be integrated with or added to the instruction.

In the hair-dryer database only 28 out of 147 entries are not imperatives. Thirty five of the 119 instructions are exhortatives containing the adverb *always*. Only in one case *regularly* is used. The remaining instructions are prohibitions, either starting with *do not* (27 occurrences) or *never* (12 occurrences). The use of prohibitions seems to be motivated against the background of research done by Maes et al. (1998:136) on usage instructions for washing machines. Prohibitions scored significantly higher than inducements on both warning power and compliance.

In terms of speech act theory these findings may seem contradictory: imperatives are regarded as face-threatening since they deny the hearer/reader his/her right to autonomy. However, because of the fact that the default format of manuals is instructional, social distance does not play a role, and the use of imperatives cannot be regarded as face-threatening to the reader (cf. Dirven & Verspoor 1999: 207).

4. Conclusion

In applied communication studies warnings are characterized in terms of criteria for effectiveness, and the following criteria for the design of warning content have been defined by human factors engineers: a *signal word or label* appropriate to the level of hazard; a *hazard statement*; references to the *consequences* of failure to comply; and an *instruction* on what to do or not to do to avoid the hazard.

This contribution attempted to demonstrate the comprehensiveness of this model by exploring the semantics (the predicate structure in particular) of the speech act verb

WARN and the verbs underlying the constituent elements of the model, namely POINT OUT/ALERT, INFORM/REMIND and INSTRUCT.

The model was subsequently applied to safety instructions from 10 information sheets for hair-dryers. In general the analyses revealed an unsystematic application of the model:

- Little evidence of internationally standardized labelling practices and the use of safety signs (as alerting devices) was found.
- Very little information on hazards and undesirable consequences was found even though the safety instructions are often meaningless without a certain amount of elaboration on risks. The occurrence of risk information was found to be very low in comparison with the findings of other researchers. Van der Meij and Loenen (1995: 10), for instance, found risks to be mentioned in 77% of the warning instructions they analysed.

One of the reasons for unsystematic application of the criteria for effective (comprehensive) warnings may be found in the non-reading behaviour of product owners. The non-reading behaviour of owners may be ascribed to simplicity of operating, familiarity of the product, frequency of use, relative safety, relative low probability of being injured and cheapness (cf.Wright, Creighton and Threlfall 1982; Wogalter, Brelsford, Desaulniers & Laughery 1991: 71 ff.; Zeitlin 1994: 179). Safety information for ordinary household appliances seems to be little more than "legalistic or litigation preventitive criteria" (cf. Lehto 1991: 596).

The influence of products liability on the content, structure and style of warning design in user manuals and information sheets for everyday household appliances seems to be a topic worth exploring.

Resource list

Abraham, C.J. A viable product vs. the legal system. Scientific Advisory Services, Ltd. Retrieved from <http://www.expertservicescanada.com/viable.html> on 1/3/01.

Braet, A. (Ed.). 2000. *Taalbeheersing als commuicatiewetenschap.* Bussum: Coutinho.

De Greene, K.B. 1970. *Systems psycology*. New York: McGraw-Hill.

De Jong, M. & Schellens, P.J. 1997. Reader-focused text evaluation. An overview of goals and methods. *Journal of Business and Technical Communication* 11: 402-432.

Dorris, A.L. & Purswell, J.L. 1987. Humanf factors in the design of effective product warnings. *Proceedings of the Human Factors Sciety 22nd annual meeting*. Santa Monica, C.A: Human Factors Society, pp. 343-346.

Dirven, R. & Verspoor, M. (Eds.). 1999. *Cognitieve inleiding tot taal en taalwetenschap*. Leuven: Acco.

Elling, M.G.M. 1991. *Veiligheidsvoorschriften in de industrie. Een verkenning van problemen en mogelijkheden*. Enschede: universiteit Twente (WMW-publicatie 8) 1991.

Frantz, JP., Miller, J.M., and Lehto, M.R. 1991. Must the Context be Considered When Applying Generic Safety Symbols? A Case Study in Flammable Contact Adhesives. *Journal of Safety Research* 22: 147-161.

Goddard, C. 1998. *Semantic Analysis*. Oxford: Oxford University Press.

Hoeken, H. 1998. *Het ontwerp van overtuigende teksten. Wat onderzoek leert over de opzet van effetieve reclame en voorlichting.* Bussum: Coutinho.

Laughery, K.R. & Hammond, A. 1999. Overview. In: Wogalter, M.S., Dejoy, D.M. & Laughery, K.R. (Eds.), pp. 3-13.

Laughery, K.R., Young, S.L. Vaugel, K.P. & Brelsford, J.R. 1993. The noticeability of warnings on alcoholic beverage containers. *Journal of Public Policy and Marketing* 12(1): 38-56.

Lehto, M.R. 1991. A proposed Conceptual Model of Human Behavior and its implications for the Design of Product Warnings. *Perceptual and Motor Skills*, 73: 595-611.

Lehto, M.R. & Miller, J.M. 1986. *Warnings. vol. I: Fundamentals, design, and evaluation methodologies*. Ann Arbor, MI: Fuller Technical Publications.

Maes, F., Maas, I., van der Meulen, I. & Verbunt, F. 1998. Wanneer waarschuwen waarschuwingen? *Taalbeheersing* 20(2): 126-140.

Maes, F., Ummelen, N. & Hoeken, H. 1996. *Instructieve teksten*. Bussum: Coutinho.

Meij, H. Van der, & Loenen, S. 1995. Let op: waarschuwing. Een inventarisatie van waarschuwingen in softwarehandleidingen. *Tijdschrift voor Ergonomie* 20: 2-14.

Neutelings, R., Ummelen, N. & Maes, A. (Eds.). 2000. *Over de grenzen van de taalbeheersing*. Den Haag: SDU uitgevers.

Robinson, G.H. 1977. Human performance in accident causation: toward theories on warning systems and hazard appreciation. *Proceedings of the Third International System Safety Conference*, Washington, DC, pp. 55-69.

Searle, J.R. 1979. *Expression and meaning. Studies in the thory of speech acts*. Cambridge: Cambridge University Press.

Schellens, P.J. 2000. Taalbeheersing:communicatiewetenskap of taalwetenschap. In: Neutelings, R., Ummelen, N. & Maes, A. (Eds.), pp. 17-27.

Schellens, P.J. & Maes, A.A. 2000. Tekstontwerp. In: Braet, A. (Ed.). 2000. *Taalbeheersing als commuicatiewetenschap*, pp. 154-188.

Showers, L.S., Celuch, K.G. & Lust, J.A. 1992. Consumers' use of product owner manuals. *Advancing the consumer interest* 4(1): 22-28.

Solomon, K.A. 1995. *Warnings: when do they help,when do they hurt*? Santa Monica: Rand.

SABS 0317:1997. *Instructions for the use of consumer products – Electrical appliances.* Pretoria: South African Bureau of Standards.

SABS 1186-1:1997. *Symbolic safety signs. Part 1: Standard signs and general requirements*. Pretoria: South African Bureau of Standards.

Vanparys, J. 1996. *Categories and complements of illocutionary verbs in a cognitive perspective*. Frankfurt am Main: Peter Lang.

Wierzbicka, A. 1987. *English Speech Act Verbs: A Semantic Dictionary*. New York: Academic Press.

Wogalter, M.S., Dejoy, D.M. & Laughery, K.R. (Eds.). *Warnings and Risk Communication*. London: Taylor & Francis.

Wogalter, M.S., Jarrard, S.W. & Simpson, S.N. 1994. Influence of warning label signal words on perceived hazard level. *Human Factors*, 36(3): 547-556.

Wogalter, M.S., Godfrey, S.A., Fontenelle, G.A., Desaulniers, D.R. Rothstein, P.R. & Laughery, K.R. 1987. Effectiveness of warnings. *Human Factors* 29(5): 599-612.

Wogalter, M.S., Brelsford, J.W., Desaulniers, D.R. & Laughery, K.R. 1991. Consumer Product Warnings: The Role of Hazard Perception, *Journal of Safety Research* 22(2): 71-82.

Wright, P., Creighton, P. & Threlfall, S.M. 1982. Some factors determining when instructions will be read. *Ergonomics* 25(3): 225-237.

Young, S.L. 1991. Increasing the noticeability of warnings: Effects of pictorial, color, signal icon, and border. In: *Proceedings of the Human Factors Society 35th Annual Meeting*. Santa Monica, CA. Human Factors and Ergonomics Society, pp. 580-584.

Zeitlin, L.R. 1994. Failure to follow safety instructions: faulty communication or risky decisions? *Human Factors,* 36(1): 172-181.

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[1] A problem related to the substution of ALERT with POINT OUT is that they are not absolute synonyms. The meaning of ALERT would possibly differ from POINT OUT in that ALERT does not contain an element of "singling out one aspect among many".