

The Hortatory Frame: A Type of Biconditional Contextualisation of Clauses

Satoshi Ohashi

Abstract

This paper describes the process of reading comprehension as the reader's attempt to retrieve relevant information from the text for constructing a coherent logical complex referred to as the hortatory frame. The logical relation underlying the frame is generally known in propositional logic as biconditional. Biconditional functioning as the structure of the hortatory frame is specified in such a way as to represent two incompatible courses of action, one of which is evaluated positively as a desirable course of action while the other negatively as an undesirable course of action. Thus specified, the hortatory frame urges the desirable course of action to be selected or the undesirable course of action to be avoided. By virtue of this evaluative function the hortatory frame is assumed to play an important role in the comprehension process of various types of text. In this paper news articles including the speech act verb *warn* in their headline or lead are analysed in terms of the hortatory frame.

Keywords

biconditional, hortatory frame, action, desirable consequence, alternative response, undesirable consequence, warn

1. The theoretical background and the purpose of the research

Biconditional in propositional logic is defined as a logical relation that is valid either in case where both propositions p and q are true or in case where both propositions p and q are false. In other words, biconditional holds between two propositions p and q if truth of p necessitates truth of q , and vice versa, or if falsity of p necessitates falsity of q , and vice versa. Thus explained, biconditional may be construed as a logical expression of the notion of norm in its sense of a standardized pattern of occurrence between two situations: occurrence of one of them necessitates that of the other and non-occurrence of one of them necessitates that of the other. If one of them occurs but the other doesn't, the norm is believed to have been breached or it is regarded as an exceptional case. Biconditional in itself, however, is a logical relation between two propositions simply represented as p and q and is totally neutral about the substantial status assigned to them such as *situation*, *action*, *consequence*, *reason* and *fact*. In looking upon biconditional as a representation of the normative relation between two situations we are interpreting the abstract logical relation as a substantial quasi-logical relation.

The most common symbolic representation of biconditional is $p \equiv q$. Expressed as a relation between p and q , it seems to be an appropriate form of representation of equivalence between them. The same logical property can, however, be expressed also as this formula: $(p \rightarrow q) \wedge (\neg p \rightarrow \neg q)$. By including the symbols of negation \neg (= not) in the second conditional it makes explicit the negative condition under which biconditional is valid: both p and

q are false, or both *not-p* and *not-q* are true. The normative feature intrinsic to biconditional is ascribed to conjunction which is represented by \wedge (= and) between the two conditionals. The first conditional of the formula ($p \rightarrow q$) by itself is valid even when p is false and q is true while the second conditional by itself is true even when $\neg p$ is false and $\neg q$ is true. Combining the two conditionals by \wedge excludes those cases. The formula as a whole is valid either when both p and q are true or when both p and q are false.

The symbolic emphasis on the negative condition of the above formula seems to be convenient to represent various aspects of intellectual activities involved in the use of language. For instance, the formula is substantially interpreted as representing two alternative courses of action. The first conditional in the formula is interpreted as representing an action p , which is followed by its consequence q ; the second conditional is interpreted as representing an action *not-p*, which is followed by its consequence *not-q*. The two courses of action are incompatible and only one of them can be selected with the other discarded.

As mentioned before, biconditional is a logical relation and is in itself neutral with respect to the substantial status assigned to its propositions, such as, *action* and *consequence*. Therefore, different types of status can be assigned to the propositions. For instance, it is possible to interpret the same formula of biconditional as representing two lines of thought rather than two courses of action. In such an interpretation, the first conditional may be regarded as representing a basis p , of which conclusion is q and the second conditional may be regarded as representing a basis *not-p*, of which conclusion is *not-q*. Only one of the two lines of thought can be true with the other being false. Thus, the substantial status assigned to propositions can vary according to the function biconditional plays in the use of language¹.

One of the functions biconditional can play in the use of language is to provide the language user with the evaluative frame which facilitates the selection of a desirable course of action over the alternative. For instance, two actions are compared in terms of their consequences: the language user decides to take the action which brings about a desirable consequence, rejecting the other because of its undesirable consequence. In order to justify the decision, the language user “evaluates” the selected course of action positively and the rejected one negatively by means of various linguistic devices. The language user might express p not simply as an action but as a commendable response to a problem and the proposition *not-p* as an avoidable inaction². The consequence of the response, q , might accordingly be evaluated as a goal to be achieved and the undesirable consequence, *not-q*, as an expectable crisis or danger.

Biconditional can play another function in argument. If biconditional interpreted as two lines of thought is exploited when the language user tries to refute the claim of the opponent, p and q might be evaluated not simply as a basis and its conclusion: p might be negatively evaluated as the opponent’s fallible reason and q as its mistaken conclusion. *Not-p* might, on the other hand, be positively evaluated as a counter-evidence and *not-q* as the correction of the mistaken conclusion. Thus, the logical relation that has simply been interpreted as a relation between an action and its consequence or as a relation between a basis and its conclusion can be further specified through the process of evaluation according to the purpose of communication for which biconditional is exploited.

It seems possible to identify some general patterns of evaluation of the biconditional frame and regard them as conventional types. Here, I am ready to discuss in detail only one of them, which I refer to as the hortatory frame. Its brief explanation was actually given above in the discussion on biconditional interpreted as two courses of action. The hortatory frame is concerned with the language user’s intention to urge or discourage a course of action in comparison with

¹ I owe the basic view that a proposition is awarded *status* in the evaluation process to Susan Hunston’s theory on evaluation (1985), (1989), (1994) and (2000).

² Here, inaction as well as action is regarded as a type of response.

its alternative. It is expected to be prevalently identified when hortatory types of speech act are performed such as recommendation and warning.

In this paper I will attempt to describe the hortatory frame that is assumed to be in operation while the reader comprehends a type of written text, news articles. I assume that various speech act words included in news articles can be seen as one of the most explicit linguistic devices to activate the hortatory frame in the comprehension process. The reader's comprehension process might be explained as identifying the information in the text which can function as each element of the frame. To confine the research, I look into only the texts which include the lexical item *warn*. I presume that relations among clauses found in the portion of text including it can be accounted for in terms of the hortatory frame.

2. Diagrammatic description of the hortatory frame.

Once the hortatory frame is activated, the reader's comprehension process is understood as identifying in the text the information that functions as its elements: action p , desirable consequence q , action $\neg p$ and its undesirable consequence $\neg q$. There are various linguistic devices in the text to help the reader identify these elements: speech act words such as *warn*, *recommend*; lexical items that directly refer to the status of the element such as *problem*, *response*, *solution*, *action*, *consequence*; lexical items with positive or negative connotation; many types of conjunctions that signal the logical relation; negation; antonyms; etc. If no appropriate information can be found in the text as a candidate for the element, the reader can at least infer the missing information based on the logical property of biconditional: If information functioning as desirable consequence q is not found, for example, it can be inferred simply by negating the information functioning as the undesirable consequence.

In order to represent the comprehension process described above, the following diagram was created:

Action	Desirable Consequence
Proposition p to be evaluated	Proposition q to be evaluated
Alternative action	Undesirable Consequence
Proposition $\neg p$ to be evaluated	Proposition $\neg q$ to be evaluated

This diagram shows the hortatory frame with its elements specified at the most rudimentary level of evaluation. It reflects the view on comprehension as filling in the slots to complete a coherent frame. Through the comprehension process the elements might be further evaluated. For example, a proposition evaluated simply as an action in the diagram may be further specified as a response to a problem while undesirable consequence might be further specified as crisis, financial loss, etc. Propositions that function as the fillers of the frame are directly retrieved or inferred from the text. It should be noted, however, that the proposition understood in this paper differs from what the same notion usually means in logic: a composite consisting of a subject and its predicate. Here, proposition generally means a clause or a chain of clauses that as a whole constitute an element of the frame. It should also be noted that the frame is supposed to maintain the logical relation of biconditional: the frame is valid either if both p and q are true or if both of them are false. The lexical item *alternative* in the diagram is intended to reflect this logical property of biconditional.

3. Data

135 articles were collected from one of the files on the Independent on CD-Rom. The file compiles news articles published between October 1 and December 31, 1991. All the collected articles include one of the following words in the headline or the first sentence (lead): *warn*, *warns*, *warned* and *warning*. The concordance-making soft, Wordsmith, was used for collecting the texts. The command used for retrieving the texts from the file was: (Key word: ==HEADLINE==, Context word: warn*, within 15 words to the right of the key word). This command is intended to retrieve only the texts of which first 15 words include the lexical item *warn* or one of its derivational forms. The first 15 words of a news article usually cover the headline and the lead of the story.

The decision to restrict the portion of text only to its first part was made in light of the fact that the gist of the whole story of a news article tends to be concisely expressed in the headline and the lead of the story: the rest of the story is usually devoted to expanding on the information expressed in the first part. If the lexical item *warn* is included in the headline or the lead, the speech act is likely to play a significant role in the story and the elements of the hortatory frame are likely to be more fully expressed in the article.

4. Text Analysis

4.1 Syntactic patterns

In this section 22 texts that include the speech act verb *warn* are analysed in terms of the hortatory frame. It might not be necessary to show so many examples to confirm my assumptions on the applicability of the hortatory frame to this type of text. However, I am also interested in the relationship between the syntactic pattern of the lexical item *warn* and the element of the frame that is specified by it. For this reason, a few example texts are presented for each syntactic pattern which the lexical item takes. Before starting the analysis of real texts, the list of the syntactic patterns that were identified in the data is presented below:

The structural pattern of the speech act verb *warn* identified in the data

<clause>

Subject + warn + (that) clause

Subject + warn + person/institution + (that) clause / its passive form

Clause, + Subject + warn/warn + Subject

<preposition>

Subject + warn + of + Nominal

Subject + warn + person/institution + of + Nominal

Subject + warn + on + Nominal

Subject + warn + person/institution + on + Nominal

Subject + warn + over + Nominal

Subject + warn + person/institution + over + Nominal

Subject + warn + against + Nominal

Subject + warn + person/institution + against + Nominal

Subject + warn + person/institution + about + Nominal

Subject + warn + person/institution

Subject + warn + off person/institution

Subject + warn + off + Nominal

<to-infinitive>

Subject + warn + person/institution + to + V

Subject + warn + person/institution + not to + V

4.2 Clause

(1) The subject/addressor³ + warn + (that)⁴ clause

Example 1⁵

-HEADLINE- EC cash dispute

-TEXT- Labour has warned that Britain could lose up to pounds 500m in regional funds from the European Community unless the Prime Minister steps in to resolve a dispute about the use of funds for Britain's coalfield communities, which the Opposition claims has split the Cabinet.

Action <Response to the Problem>	D.C. <Goal: Resolution of the Problem>
p: the Prime Minister steps in the problem	q: to resolve the dispute (problem so that Britain could not lose the money) ⁶
Alternative Action <Avoidable Inaction>	U. C. <Financial Loss>
\neg p: the Prime Minister doesn't step in the problem of EC cash dispute: a dispute about the use of funds for Britain's coalfield communities	\neg q:(the dispute is not resolved and) Britain could lose up to pounds 500m in regional funds from the European Community

The headline of the text includes *cash dispute* (an explicit signal for problem) which is explained in detail in the lead as *a dispute about the use of funds for Britain's coalfield communities, which the Opposition claims has split the Cabinet*. The presence of the problem factor in the text enables the reader to evaluate p as a response to the problem rather than simply as an action. The logical property of *unless* in the lead allows the reader to retrieve both p and \neg p, which is here evaluated as an avoidable inaction. *To resolve a dispute* is seen as an explicit signal for desirable consequence, which is here also evaluated as a goal. Losing money is understood as undesirable consequence specified as financial loss. To maintain the oppositional relation between q and \neg q the information in parentheses in the slots are mutually inferred.

In regard to the relationship between the syntactic pattern and the elements of the frame, all the elements are expressed in that-clause of the verb *warn*.

Example 2

-HEADLINE- China warning

-TEXT- PEKING (AFP) - China warned it may take action against Taiwan unless the island's government stems a growing independence movement.

³ Subject in the list means the person who performs the act of speech act (addressor) and person or institution means the addressee who is the target of the act.

⁴ Parentheses mean that the items are optional.

⁵ The lexical item *warn* is underlined in all the examples.

⁶ Parentheses in the diagram mean that the information is inferred from the context.

Action	Desirable Consequence
p: the island's government stems a growing independence movement	q: (it won't take action against Taiwan)
Alternative Action	Undesirable Consequence
\neg p: the island's government doesn't stem a growing independence movement	\neg q: it may take action against Taiwan

q is logically inferred by negating \neg q. One interesting point about this text is that unlike undesirable consequences such as natural disasters, the addressor is the agent to bring about the undesirable consequence. When the undesirable consequence for the addressee is totally under the control of the addressor, warning is similar to threatening.

- (2) The addressor + warn + the addressee + (that) clause
 The addressee + is warned (by the addressor) + (that) clause⁷

Example 3

-HEADLINE- Construction chiefs warn crisis will last until 1993

-TEXT- CONSTRUCTION industry leaders warned the Government yesterday that the building sector would not recover from recession until the start of 1993.

Action	Desirable Consequence
	q: (the building sector would recover from recession by the start of 1993)
Alternative action	Undesirable Consequence
	\neg q: the building sector would not recover from recession until the start of 1993

If the hortatory frame is activated in the comprehension of this text, the lack of information for filling in the slots of the frame may prompt the reader to ask what action the addressee (the government) should take to achieve q. Structurally speaking, the complement clause of *warn* expresses only undesirable consequence.

Example 4

-HEADLINE- Race warning over Asylum Bill

-TEXT- COUNCILS were warned yesterday that they will be breaking race relations law if they collaborate with Government plans to remove housing rights from homeless asylum-seekers, writes Nick Cohen.

⁷ Here, passive forms are treated as the same pattern

Action	Desirable Consequence
p: (they won't collaborate with Government plans to remove housing rights from homeless asylum-seekers)	q: (they will not be breaking race relations law)
Alternative action	Undesirable Consequence
¬ p: they collaborate with Government plans to remove housing rights from homeless asylum-seekers	¬ q: they will be breaking race relations law

By using the passive form the addressor is left unexpressed in this text.

(3) Clause + (the addressor+ warn) / (warn + addressor) + (the addressee)

Example 5

-HEADLINE- Tunnel may open late, warns Morton

-TEXT- SIR ALASTAIR MORTON, chief executive of Eurotunnel, warned for the first time last night that the Channel tunnel might not open on time in June 1993.

Action	Desirable Consequence
p:	q: (the Channel tunnel will open on time in June 1993)
Alternative action	Undesirable Consequence
¬ p:	¬ q: the Channel tunnel might not open on time in June 1993.

Only undesirable consequence is explicit in the text.

Example 6

-HEADLINE- British Gas warns of price swings

-TEXT- THE Government's plan to cut British Gas's monopoly over domestic and small users has serious implications for the reliability of supplies and uniformity of prices, the utility warned yesterday.

Action	Desirable Consequence
p:(The Government won't cut British Gas's monopoly over domestic and small users)	q: (the reliability of supplies and uniformity of prices will be maintained)
Alternative action	Undesirable Consequence
¬ p: The Government plans to cut British Gas's monopoly over domestic and small users	¬ q: serious implications for the reliability of supplies and uniformity of prices

This text is a good example to discuss the importance of viewpoint in the frame evaluation. Evaluation of a course of action as desirable or undesirable is relative to the person who makes the judgement. The analysis above reflects the judgement on desirability by British Gas. If the reader sides with the government, BP's monopoly may be understood as a problem and the government's plan to cut it as a response to the problem. Such an interpretation, however, is blocked by the fact that the addressor of warning is BP. It is important to remember that the

hortatory frame reflects the addresser's viewpoint.

All the example texts dealt with up to this point include the lexical item *warn* which takes a complement clause. In the whole data there were 35 texts which include one of the three structures illustrated above. The clause can contain any of the elements of the frame though there is a clear inclination that the elements of the undesirable course of action are favoured over those of the desirable course of action, which are often inferred from the former. Particularly, the element of undesirable consequence was found in all the 35 texts. However, this does not exclude the possibility that the desirable course of action is expressed in the clause and the undesirable course of action is inferred. Below is an example of such cases found in the Internet:

Example 7

Gunners warned to keep feet on the ground

Tuesday, 15th December 2009

FOOTBALL

JON COUCH

ARSENAL boss Arsene Wenger has warned his side must keep their feet on the ground if they are to stay in touch in the Premier League title race.

Action	Desirable Consequence
p: Gunners keep feet on the ground/ his side must keep their feet on the ground	q: they are to stay in touch in the Premier League title race
Alternative action	Undesirable Consequence
\neg p: (Gunners don't keep feet on the ground)	\neg q: (they won't stay in touch in the Premier League title race)

4.3 Preposition

In this section are discussed texts that include *warn* used with some preposition.

(1) The addressor + warn +(the addressee)+ of + Nominal

There were 25 texts including this syntactic pattern in the data.

Example 8

-HEADLINE- Recession warning as business failures surge

-TEXT- BUSINESS leaders yesterday warned of a sluggish and uncertain recovery from recession after official figures showed that a record number of firms collapsed in the third quarter of the year.

Action	Desirable Consequence
p:	q: (Business recovers quickly from recession)
Alternative action	Undesirable Consequence
\neg p:	\neg q: a sluggish and uncertain recovery from recession

Though the problem is expressed by *business failures surge* and *a record number of firms col-*

lapsed, no response to it is expressed.

Example 9

-HEADLINE- Landsbergis warns of a second coup

-TEXT- THE Lithuanian President, Vytautas Landsbergis, yesterday warned of a second, 'perhaps more successful coup' in the Soviet Union, and demanded the immediate withdrawal of all Soviet troops in Lithuania 'before the second military coup'.

Action	Desirable Consequence
p: the immediate withdrawal of all Soviet troops in Lithuania	q: (a coup is prevented)
Alternative action	Undesirable Consequence
\neg p: (Soviet troops in Lithuania don't retreat immediately)	\neg q: a second coup / a second, 'perhaps more successful coup' in the Soviet Union

In this example, only undesirable consequence is expressed after *warn of* and the action to be taken is expressed as the object of the verb *demand*. This allows us to specify an action as a demanded action. The warning-demanding is a prevalently identified chain of speech acts.

In Examples 10-12 a larger portion of text is cited to see larger context:

Example 10

-HEADLINE- BT warns of harm from regulation

-TEXT- BT issued a plethora of warnings about the effect of tighter regulation and increased competition as the sale of up to pounds 6bn-worth of its shares began in earnest yesterday. In the pathfinder prospectus for the sale, BT said that draft legislation to strengthen the powers of the industry regulator, Oftel, was likely to adversely affect the telecoms company. It also said: 'Increasing competition will continue to result in BT losing market share, including some of its more profitable areas of operation.

Action	Desirable Consequence
p: (the industry regulator's power is not strengthened) / (competition is not increased)	q: (no harm / BT won't lose market share, including some of its more profitable areas of operation)
Alternative action	Undesirable Consequence
\neg p: regulation / tighter regulation and increased competition / draft legislation to strengthen the powers of the industry regulator, Oftel, / 'Increasing competition	\neg q: harm / adversely affect the telecoms company / it results in BT losing market share, including some of its more profitable areas of operation

The nominal expression in the headline *harm from regulation* may be seen as expressing both the alternative action, i.e. *regulation* and its undesirable consequence, i.e. *harm*. Though they are simply words rather than clauses (propositions), the analysis is verified in a larger context presented by the following sentences. This text also confirms the assumption that the gist of the news article is concisely supplied in the headline and lead, with the rest of the story simply expanding on the same points.

Example 11

-HEADLINE- Parliament and Politics: Nato 'must update nuclear arms': Home tells peers of need for 'prudent' response to Soviet disarmament initiatives

-TEXT- LORD HOME of the Hirsels, the former Conservative Prime Minister, yesterday warned of the need for a 'prudent' response to Mikhail Gorbachev's disarmament initiatives.

A minimum nuclear deterrent had to be maintained and it must be kept up to date, he told the Upper House. 'Nobody knows whether after 70 years of discipline and direction, the Russian people will be able or willing to absorb the turbulent adjustments involved in what amounts to a counter-revolution.

Lord Home's advice, in opening a debate on 'preserving the unity of the Western alliance and its power to resist aggression', met with the ready approval from Lord Trefgarne, Minister of State for Defence. 'We should not delude ourselves into thinking that the Soviet Union is about to become a liberal, pluralist democracy with a market economy,' he said.

Action	Desirable Consequence
p: Nato 'must update nuclear arms / need for 'prudent' response to Soviet disarmament initiatives / the need for a 'prudent' response to Mikhail Gorbachev's disarmament initiatives / A minimum nuclear deterrent had to be maintained and it must be kept up to date / 'preserving the unity of the Western alliance and its power / We should not delude ourselves into thinking that the Soviet Union is about to become a liberal, pluralist democracy with a market economy	q: (Nato is able) to resist aggression
Alternative action	Undesirable Consequence
\neg p: (We delude ourselves into thinking that the Soviet Union changes into a market economy and disarm ourselves)	\neg q: (Nato will lose the ability to resist aggression)

The action to be taken is directly evaluated as a *prudent response* to the problem that will be caused by Soviet disarmament initiatives. The problem is explained in detail as the situation where *nobody knows whether after 70 years of discipline and direction, the Russian people will be able or willing to absorb the turbulent adjustments involved in what amounts to a counter-revolution*. Again in this text confirmed is our assumption that the gist of a text expressed in the headline and the lead is repetitively explained in the rest of it. Another important point to be noted about this text is that unlike most of other texts in which *warn of* is followed by the expression of the undesirable course of action, in this text it is followed by that of the desirable course of action.

Example 12

-HEADLINE- Milken warned of US bond manipulation

-TEXT- MICHAEL MILKEN warned US government investigators about manipulation of the US Treasury bond market months before the Salomon Brothers scandal broke, lawyers for the former junk bond trader say. In February, Milken - who is co-operating with prosecutors in hopes of having his 10-year fraud sentence reduced - told them the Treasury auctions were subject to illegal trading, according to court documents released late last week. In August, the Salomon Brothers revealed its chief traders had cornered

several auctions by overbidding for the issues, using the names of several clients without their knowledge.

Action	Desirable Consequence
p:	q: (manipulation is prevented)
Alternative action	Undesirable Consequence
\neg p:	\neg q: US bond manipulation / manipulation of the US Treasury bond market / the Treasury auctions were subject to illegal trading / SB's chief traders had cornered several auctions by overbidding for the issues, using the names of several clients without their knowledge

One point to be noted about this text is that unlike in other examples including the same syntactic pattern *warn of* in the headline the lexical item is used in the past tense. Actually, in the whole data this is the only case where *warn of* in the headline is used in the past tense: all the other examples found in the headline are in the present tense: *warn(s) of*. The exceptional past tense seems to reflect the fact that at the time of reporting the hortatory effect of warning had already been lost: the undesirable consequence materialised before the author of the text reported about it. In all the other examples of this syntactic pattern, the undesirable consequence is still considered to be a consequence that is avoidable or at least yet to materialise at the time of reporting. Though the author of the news is not the performer but only the reporter of the speech act, the fact that the undesirable consequence is still avoidable at the time of reporting is the essential factor to retain the hortatory effect of the warning in the text. *A sluggish and uncertain recovery* in Example 8, *a second coup* in Example 9, *harm from regulation* in Example 10 and *Nato's losing ability to resist aggression* in Example 11 are all regarded as a possible course of event that should be avoided at the point of reporting as well as at the point of performing the speech act. In Example 12, on the other hand, U.S. bond manipulation actually took place: the undesirable consequence is not a possibility but a fact. It can be said that non-factuality of the undesirable consequence at the point of reporting a speech act is the necessary condition for the frame to maintain the hortatory effect attributed to the original performer.

Thus, the analysis shown in terms of the above frame does not appropriately reflect the point of the text though it may represent Milken's intention of warning. The author's point is not to urge or report the urgency of the avoidance of US bond manipulation. However, this does not mean that the hortatory frame is not applicable to the interpretation of this text. Once we notice that the situation reported in the text is related to a lawsuit and the headline is actually the description of a fact attributed to the defendant's lawyers, it is possible to create a totally different frame:

Action	Desirable Consequence
p: Milken co-operates with prosecutors / He warns investigators about manipulation of bond market	q: Milken has his sentence reduced
Alternative action	Undesirable Consequence
\neg p: (Milken doesn't co-operates with prosecutors / he does not warn about the manipulation of bond market)	\neg q: Milken serves his 10-year fraud sentence

Interpreted in terms of this frame, the point of the article is whether Milken can avoid serving 10-year fraud sentence. For that purpose, action p must be taken and the headline reports that it was. Whether the defendant actually warned is a crucial matter, and it is confirmed by *warned* in the headline. When propositions of the hortatory frame are confirmed as facts, what is at issue is the logical validity of the frame rather than its hortatory effect⁸. Confirming the factuality of action p logically predicts the materialisation of q, which is the goal of the defendant and his lawyers.

Presented below is a list of various lexical items that appeared in the undesirable course of action after *warn of* in the data:

pollution, "kamikaze" unions, coups and wars, chaos, threat to sovereignty, looming crisis, cuts in education spending, economic "abyss", harm, many hitches, big threat from Japan, risk, disaster, curbs on legal aid, hard time ahead, isolation, etc.

- (2) The addressor + warn + (the addressee) + on + Nominal 8 examples found
 The addressor + warn + (the addressee) + over + Nominal 3 examples found

Example 13

-HEADLINE- Treasury warns on consumer spending

-TEXT- THE TREASURY conceded yesterday there was a risk that consumer spending, one of the projected mainstays of recovery, might fail to turn up next year, undermining expansion prospects, writes Peter Torday.

Action	Desirable Consequence
p: consumer spending might turn up next year	q: recovery, expansion prospects
Alternative action	Undesirable Consequence
\neg p: consumer spending might fail to turn up next year	\neg q: expansion prospects are undermined

Example 14

-HEADLINE- Arafat warns Israel over settlements

-TEXT- THE CONTINUED construction of settlements by Israel in the occupied territories is the main threat to the Middle East peace talks starting in Madrid this week, Yasser Arafat, chairman of the Palestine Liberation Organisation, said yesterday.

Action	Desirable Consequence
p: (the construction of settlement is stopped)	q: (the Middle East peace talks is not threatened)
Alternative action	Undesirable Consequence
\neg p: the continued construction of settlements by Israel in the occupied territories	\neg q: the main threat to the Middle East peace talks starting in Madrid this week

⁸ However, if non-factuality of each elements of the frame is regarded as the necessary condition for the hortatory frame, this type of frame specification must be distinguished from that of the hortatory frame.

The two structures seem to be dominantly used in headlines. Except for one case of *warn over*, all of the 72 examples retrieved from The Independent on CD Rom (files compiling articles issued in 15 months) are found in headlines.

The nominal expressions after *on* or *over* by themselves do not necessarily mean something undesirable. Although words, such as *risk*, *danger* and *poverty*, are often included in the nominal expressions as in the nominal expressions following *warn of*, there are also many neutral expressions such as:

elderly, health records, identity cards, mortgages, profits, single currency, year figures, news report, posters, etc.

Expressions such as these seem to be better understood as a situation one aspect of which includes the potential for developing into some undesirable consequence for the addressee. The word, *warn*, signals that such a negative aspect of the situation is going to be reported in the article. For instance, the construction of the Jewish settlements of Example 14 is a real situation: settlements have been constructed. It is one aspect of the situation which can endanger the fate of the peace talks: its continuation.

(3) The addressor + warn + (the addressee) + about + Nominal 3 examples

Example 15

-HEADLINE- A puff of defiance at growing persecution: Gita Conn discovers that where there's smoke, there's fire

-TEXT- THEY warned me about New York.

I was very careful to clutch my handbag to my bosom, make sure there were others in the subway carriage and not enter Harlem on my own at night. It didn't help. What was meant to be a winter holiday turned into 10 days of hell.

After this the story continues and the writer describes the difficult time she had in New York because of her habit of smoking. Unlike the other examples, it is a kind of travel essay and written in a different style. Regarding our discussion, however, a more important difference is in the way the hortatory frame is exploited: In this text the hortatory frame is retrospectively inferred from the information about what happened or facts. The author's intention is to contrast the hortatory frame and the real course of event. The inferred frame is presented below:

Action	Desirable Consequence
p: (I must) be very careful to clutch my handbag to my bosom, make sure there are others in the subway carriage and not enter Harlem on my own at night	q: (To keep myself safe in New York and enjoy) a winter holiday
Alternative action	Undesirable Consequence
$\neg p$ (If I am not very careful to clutch ~ and enter Harlem on my own at night)	$\neg q$: (To put myself in danger in New York and cannot enjoy a winter holiday) 10 days of hell

The construction of the above frame depends on the inference from what the author actually did in New York. The frame reflects the viewpoint of her friends (referred to as *they* in the first line) at the time of their utterance or warning. The logical property of the frame tells the author that if p is true q is also true. In order to enjoy *a winter holiday*, the author took the commended action p but what followed was *10 days of hell*. This is a breach of the norm, or a violation of the valid sequence of events. When the norm is breached, frustration is caused, which is expressed in the curt comment *it didn't help*. Norm breaching or its resultant frustration func-

tions as an effective opening for further development of the story.

Regarding the syntactic pattern, in the data there were only three examples of this pattern. One of them is seen in the lead of Example 12. The concordance line made from all the data compiled in the Independent on CD-Rom shows that this structure is not limited to the use in the headline as *warn on* and *worn over* are. Unlike them, no examples were found of the verb used in present tense in the headline. The nominal expressions by themselves do not necessarily mean something undesirable: it can be a general situation one aspect of which is evaluated by the verb as potential danger leading to an undesirable consequence like New York, which is evaluated as a dangerous situation.

(4) The addressor + warn + (the addressee) + against + Nominal

Example 16

-HEADLINE- Callaghan warns against creation of ghetto schools

-TEXT- THE GOVERNMENT'S pursuit of choice and competition in education was in danger of creating 'educational ghettos', Lord Callaghan, the former Labour Prime Minister, warned yesterday.

Action	Desirable Consequence
p: (The government doesn't pursuit choice and competition in education)	q: (ghetto schools are not created)
Alternative action	Undesirable Consequence
\neg p: The government's pursuit of choice and competition in education	\neg q: creation of ghetto schools

Example 17

-HEADLINE- Tebbit warns Prime Minister not to sign treaty at Maastricht

-TEXT- NORMAN TEBBIT, the former Conservative chairman, will today provoke fresh controversy within the party by warning John Major against signing an economic and monetary treaty at Maastricht in December.

Action	Desirable Consequence
p: Prime Minister/J.M. does not sign treaty at Maastricht	q:
Alternative action	Undesirable Consequence
\neg p: J.M. signs an economic and monetary treaty at Maastricht in December.	\neg q:

It should be added that the undesirable consequence, \neg q, can be retrieved from the subsequent part of the text: *the European 'straitjacket' that Britain wanted to avoid*.

In this syntactic pattern the nominal after *against* expresses the elements of the undesirable course of action, from which the desirable course of action can logically be retrieved.

(5) The addressor + warn + (the addressee) + off + (Nominal)

Example 18

-HEADLINE- Sports Politics: Nebiolo is warned off by SA officials

-TEXT- PRIMO NEBIOLO, athletics' premier official, was told to keep his nose out of South Africa's business yesterday as the country's return to international competition looked set for further postponement.

Action	Desirable Consequence
p: Primo Nebilo, athletics' premier official, keeps his nose out of South Africa's business	q: (the country's return to international competition will be accelerated)
Alternative action	Undesirable Consequence
\neg p: (Nebilo meddles in South Africa's business)	\neg q: the country's return to international competition will be further postponed

(6) The addressor + warn off + the addressee

Example 19

-HEADLINE- UN warns off Saddam

-TEXT- THE UN Security Council warned President Saddam Hussein yesterday against any further violation of the Gulf war ceasefire, following last week's reported Iraqi incursion on to Kuwait's Bubiyan island. The warning followed an informal meeting of Security Council members in New York on Friday to discuss what Britain's UN envoy, Sir David Hannay, described as Iraq's most serious violation yet of the ceasefire agreement.

Action	Desirable Consequence
p: (Saddam Hussein doesn't further violate the Gulf war ceasefire)	q:
Alternative action	Undesirable Consequence
\neg p: Saddam Hussein's further violation of the Gulf war ceasefire	\neg q:

Though information such as economic or military sanction against Iraq is a promising candidate for undesirable consequence it remains implicit.

4.4 Addressee

(1)The addressor + warn + the addressee

Example 20

-HEADLINE- Mitterrand warns farmers

-TEXT- FRANCOIS MITTERRAND told the farmers of France yesterday that he would no longer tolerate the violent protests which have turned the provinces into effective no-go areas for his ministers.

Action	Desirable Consequence
p: (French farmers don't protest violently)	q: (Ministers go to the province as they like)
Alternative action	Undesirable Consequence
\neg p: French farmers' violent protests	\neg q: farmers' protest turns the province into effective no-go areas for Mitterrand's ministers

4.5 To-infinitive

(1) The addressor + warn + the addressee + not to + V

The structure is similar to that discussed in Example 17: *the addressor warns the addressee against an action*. This is of course due to the logical similarity between *against* and *not to*. Both *against + Nominal* and *not to + Verb* can be interpreted as representing commendable response though the former can also represent desirable consequence. Due to the semantics of negation included in them, alternative response is simply acquired by removing *against* and *not* from the information representing commendable response.

Example 21

-HEADLINE- EC ambitions threaten Nato, Bush warns

-TEXT- PRESIDENT George Bush bluntly warned the European allies in Nato yesterday not to attempt to go it alone in the management of their defence, thereby threatening the 42-year-old Atlantic alliance.

Action	Desirable Consequence
p: the European allies in Nato do not attempt to go it alone in the management of their defence	q: (the 42-year-old Atlantic alliance is not threatened)
Alternative action	Undesirable Consequence
\neg p: EC ambitions / the European allies in Nato attempt to go it alone in the management of their defence	\neg q: threatening the 42-year-old Atlantic alliance

(2) The addressor + warn + the addressee + to + V

Example 22

-HEADLINE- Cyanide warning

TEXT- Police warned the public to beware of any eight-inch-long phials found on beaches in the Torquay area after one containing cyanide was washed up on Watcombe beach.

Action	Desirable Consequence
p: the public should beware of any eight-inch-long phials found on beaches in the Torquay area	q: (the public are not harmed by) cyanide
Alternative action	Undesirable Consequence
\neg p: the public should beware of any eight-inch-long phials found on beaches in the Torquay area	\neg q: (the public are not harmed by) cyanide

5. Summary and conclusion

In this paper I have attempted to apply the hortatory frame, which is characterised as a type of biconditional frame, to the analysis of the first part of news articles mainly consisting of the headline and the lead. The hortatory frame has been explained as representing the comprehension process of text: the reader constructs a coherent frame consisting of such elements as *action*, *desirable consequence*, *alternative action* and *undesirable consequence*. The reader identifies propositions in the text to fill in these elements that function as the slots of the frame. Among the elements is established the logical relation of biconditional, which is understood as the logical property of norms. Applying the hortatory frame to the interpretation of the text means seeing it in terms of two incompatible courses of action, one of which is desirable and the other undesirable. For the purpose of selecting between them the reader evaluates the former positively and the latter negatively by specifying each element with the aid of various lexical and structural clues. The element of *action*, for example, may be more positively evaluated as a *commendable solution for the problem* or more negatively as an *avoidable inaction*. Such evaluation of each element was not shown in the diagrams for lack of space except in Example 1. However, texts abound with lexical items that specify the elements: various items to signal the positive course of action such as *prudent response* in Example 11 as well as a large number of items to signal the undesirable course of action such as *harm*, *crisis*, *recession*, *monopoly*, *violent*, *sluggish and uncertain recovery*, *he (Mitterrand) would no longer tolerate*.

The basic function of the hortatory frame is to urge the action to be taken so that the undesirable course of action is avoided. The hortatory effect of the frame depends on the possibility that it is avoided: if the undesirable course of action has already been confirmed as facts at the point of reporting the news, no hortatory effect is retained in the frame as explained in Example 12. This doesn't mean, however, that factuality has nothing to do with the hortatory frame. On the contrary, factuality of propositions is concerned with the logical validity of the hortatory frame. By virtue of the logical quality of biconditional if p is confirmed as a fact, then q is also expected to be confirmed as a fact, and vice versa. If p is confirmed as a fact but q is not confirmed as a fact, the norm is breached, which causes frustration. Such expectation and frustration caused by matching logical relations and facts are an important factor to develop a story and often exploited in the comprehension process as seen in Example 12 and 15.

With regard to the assumptions I made at the start of this paper, it can safely be said that the text in which a hortatory type of speech act, warning, plays a central role can be systematically interpreted in terms of the hortatory frame.

The centrality of the hortatory effect in the text was assumed to be guaranteed by the fact that the speech act verb *warn* is included in the headline or the lead, which usually expresses the gist of the whole article. This assumption was also verified by the fact that the retrieved data can be analysed in terms of the hortatory frame. But there were a few exceptions such as Example 12. There, the frame activated by the lexical item *warned* was not useful to account for the whole text. Generally speaking, however, the lexical item *warn* can be seen as the ac-

tivator of the hortatory frame which explains the clause relations included in those sections of news articles.

Still another assumption I had was reflected in the way example texts were presented. I expected that various syntactic patterns of the lexical item *warn* might be in some kind of relationship with particular elements of the hortatory frame. However, there was no clear-cut relationship between syntactic patterns and the elements they specify. For instance, I erroneously guessed that there would be a difference between the nominals that follow *warn of* and those that follow *warn against*. My guess that the first group of nominals specify alternative response and the second undesirable consequence soon turned out to be false. In many cases, the two elements of the course of action were not easily distinguished from each other. It is at least possible, however, to say that the two expressions take one or both of the elements of the undesirable course of action. Similarly, my guess about *that-clause* that it takes only the elements of the undesirable course of action turned to be wrong. The use of conjunction *unless* easily enables us to express commended responses. Moreover, as was observed in Example 7, *that-clause* can express only the two elements of the desirable course of action. The lack of correspondence between the syntactic patterns and the elements they specify implies that *warn* should not be seen as an indicator of any particular elements of the frame but as the activator of the whole frame. Then, rather contradictorily, this characteristic of the lexical item *warn* seems to justify my view on the hortatory frame as a coherent evaluative unit.

Bibliography

- Allwood, J., Anderson L.G. and Osten, D. (1977) *Logic in Linguistics*. Cambridge: Cambridge University Press.
- J.D. Benson and W.S. Greaves (eds.) (1988). *Systemic Functional Approaches to Discourse*. Norwood NJ: Ablex.
- Coulthard, M. (ed.), (1992) *Advances in Spoken Discourse Analysis*. London: Routledge
- (1994) *Advances in Written Text Analysis*. London: Routledge.
- Dijk, T. Van (1988) *News as Discourse*. Hillsdale, NJ: Lawrence Erlbaum.
- Dijk, T. Van and Kintsch, W. (1983) *Strategies of Discourse Comprehension*. New York: Academic Press.
- Halliday, M.A.K. and Hassan, R. (1987) *Cohesion in English*. London: Longman.
- Hoey, M. (1979) *Signalling in Discourse*. Discourse Analysis Monographs, Birmingham: ELR, University of Birmingham.
- (1983) *On the Surface of Discourse*. London: George Allen and Unwin, republished (1991) by English Studies Unit, University of Nottingham.
- (1991) *Patterns of Lexis in Text*. Oxford: Oxford University Press
- (1993) "A common signal in discourse: How the word *reason* is used in texts", in J. Mc H. Sinclair, M. Hoey and G. Fox (eds), *Techniques of Description: Spoken and Written Discourse* (a festschrift for Malcolm Coulthard). London: Routledge, pp.67-82.
- (1994) "Signalling in discourse: a functional analysis of a common discourse pattern in written and spoken English", in M. Coulthard (ed.), *Advances in Written Text Analysis*. London: Routledge, pp.26-45.
- (2001) *Textual Interaction an introduction to written discourse analysis*. London: Routledge.
- Horn, L.R. (1989) *A Natural History of Negation*. Chicago: The University of Chicago Press.
- Hunston, S. (1985) "Text in world and world in text: goals and models of scientific writing" *Nottingham Linguistic Circular*, 14:25-40.
- (1989) "Evaluation in experimental research articles." Unpublished Ph.D thesis,

University of Birmingham.

- (2000) "Evaluation and the Planes of Discourse: Status and Value in Persuasive Texts" in Hunston, S and Thompson, G. (eds.) (2000), pp176-207.
- (1994) "Evaluation and organisation in a sample of written academic discourse", in Coulthard (1994),191-218.
- Hunston, S and Thompson, G. (eds.) (2000) *Evaluation in Text*. Oxford: Oxford University Press.
- Jordan, M.P. (1980) "Short texts to explain Problem-Solution structures-and vice versa." *Instruction Science*,9,221-52.
- (1984) *Rhetoric of Everyday English Texts*. London: George Allen and Unwin.
- (1988) "Some advances in clause relational theory", in J.D. Benson and W.S.Greaves (eds.)(1988).
- Longacre, R.E. (1983) *The Grammar of Discourse*. NY: Plenum Press.
- Quirk, R., Greenbaum, S., Leech, G.N., and Svartvik, J. (1972) *A Grammar of Contemporary English*.
- Sinclair, J.Mc.H (1981) "Planes of discourse" in Sinclair (2004) pp.51-67.
- (2004) *Trust the Text*. London: Routledge.
- Sinclair, J.Mc.H, M. Hoey and G. Fox (eds) (1993) *Techniques of Description: Spoken and Written Discourse* (a festschrift for Malcolm Coulthard). London: Routledge.
- Tannen, D. (1993) *Framing in Discourse* Oxford: Oxford University Press.
- Thompson, G. (1994) "Voices in the text: discourse perspectives on language reports." *Applied Linguistics*, 17:501-30.
- Winter, E.Q. (1974) "Replacement as a function of repetition: a study of some of its principal features in the clause relations of contemporary English." Unpublished Ph.D. dissertation. University of London.
- Winter, E.Q. (1977) "A clause relational approach to English texts: a study of some predictive lexical items in written discourse." *Instructional Science* 6.1.
- Winter, E.Q. (1982) *Towards a Contextual grammar of English: the Clause and its Place in the Definition of Sentence*. London: George Allen & Unwin.