

# The Factual Frame

— Its Specification Patterns and Textual Functions —

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## Abstract

In this paper an attempt is made to identify and define some logical structures or frames that are imposed on the text information in order to facilitate the comprehension process. The discussion is based on a view of the comprehension process as the reader's efforts to construct a coherent logical complex which is completed as a result of semantic specification of its elements. It is assumed that the function of a text is determined by the way the frame is specified. Several texts are analyzed in terms of the frame called the factual frame and their specification patterns are described.

**keywords** : biconditional, frame, specification, factual, hortatory

## 0. Introduction

In this paper several articles taken from an American news magazine Time are analyzed in terms of a frame, which is assumed to be a kind of schema or template the reader of the texts can exploit to facilitate the comprehension process. The notion of frame here means a group of propositions among which the logical relation of biconditional is established. Biconditional is often explained in propositional logic as the relation of equivalence between two propositions  $p$  and  $q$ : *whenever  $p$  is true,  $q$  is also true and vice versa*, or in a negative form, *whenever not- $p$  ( $\neg p$ ) is true, not- $q$  ( $\neg q$ ) is also true and vice versa*. In a preceding paper<sup>1</sup> a claim was made that biconditional underlies the notion of norm, against which we interpret a new experience and environment. Norms in this sense generally indicate conditions for the occurrence of an event: when a condition is confirmed as true, its consequence is also true or when the condition is confirmed as false, its consequence is also false. If one aspect of linguistic communication is understood as a process in which participants share social norms accepted in the linguistic community, it is not so far-fetched to postulate that biconditional functions as the logical basis on which text is constructed or comprehended. The analysis of text described in this paper reflects such a basic view on communication. In the comprehension of a text the reader attempts to establish a biconditional relation among propositions retrieved from it for the purpose of understanding the norm the writer of the text is trying to share with the reader. The propositions retrieved may be explicit in the text but often must be inferred from the context. This comprehension process is most simply explained as the one in which the reader imposes a frame on the information retrieved from the text: the reader attempts to identify in the text the propositions among which biconditional is established.

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<sup>1</sup> Ohashi, S (2010)<sup>1</sup>

In propositional logic biconditional is symbolically represented as  $p \equiv q$ . Interestingly, however, biconditional can also be represented as more complex formulae:  $(p \rightarrow q) \wedge (\neg p \rightarrow \neg q)$  and  $(p \equiv q) \wedge (\neg p \equiv \neg q)$ . What makes them interesting for the purpose of this study is that they include the propositions both in positive and negative forms. The presence of both positive and negative propositions indicates that opposition or negation can be incorporated into the meanings of biconditional. The biconditional frame discussed in this paper is based on the logical relationship among the four propositions  $p$ ,  $q$ ,  $not-p$  and  $not-q$  rather than  $p$  and  $q$ . Though the meanings of the logical formulae are the same in terms of Truth Table whether they are expressed as the relation between two or four propositions, the four-propositional representations are more convenient to illustrate the contrast between two courses of action which is one of the crucial characteristics of the biconditional frame.

At this point, it would be useful to simply illustrate one example of the biconditional frame. As was mentioned above, biconditional in itself simply means a type of logical relation among propositions symbolized as  $p$ ,  $not-p$ , etc. and it is totally neutral with respect to the semantics of each proposition. To constitute a biconditional frame each proposition must be somehow specified in accordance with the communicative purpose of the text. For instance, in another paper<sup>2</sup> a description was made of a frame specified as the Hortatory Frame, which consists of the four propositions,  $p$ ,  $q$ ,  $not-p$  and  $not-q$ . Each proposition is specified respectively as Response, Desirable Consequence, Alternative Response and Undesirable Consequence. All these elements of the frame are further specified as non-factual or hypothetical. The hortatory frame can be established in the comprehension of a text in which the writer is encouraging that the response to the situation is needed to achieve the desirable consequence and warning that inaction or the alternative response will bring about the undesirable consequence. The hortatory frame urges or encourages a course of action and thus is named as such. Exploiting it in comprehension, the reader interprets the text in terms of two incompatible courses of action, one of which is valued positively while the other negatively.

Though the hortatory frame is prevalently identified in texts related to the future, in the comprehension process of other types of text other frames are assumed to be in operation. In other words, the biconditional relation is specified variously in accordance with the text type. For instance, in the comprehension process of texts reporting what has happened or real incidents, all the elements of the frame might be specified as facts unlike the elements of the hortatory frame which are specified as non-facts or hypotheses. It is interesting to know if any common function, such as the persuasive function of the hortatory frame, can be identified among the texts which are explained in terms of a particular pattern of specification. In this paper, an attempt is made to identify such functions by analyzing a group of text in which all the elements of the biconditional relation are specified as facts.

## 1. A lesson learned

One of the factual specifications of the biconditional relation that can be easily identified is the one in which the propositions are, just like those of the hortatory frame, specified as two courses of action consisting of the four elements: Response, Desirable Consequence, Alternative Response and Undesirable Consequence. Unlike the hortatory frame, however, all the four propositions are factual in the sense that they are what happened in reality: Factual Response, Factual Desirable Consequence, Factual Alternative Response and Factual Undesirable Consequence. Between the two courses of action that have materialized in reality, there is a lapse of time. One of them precedes the other in time and functions as

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<sup>2</sup> Ohashi, S (2010)<sup>2</sup>

an experience that positively affects the other, i.e., the subsequent experience. It is possible to assume that such a specification of the biconditional relation facilitates the comprehension of the following text published in a news magazine:

Text 1

How the lessons of Iraq paid off in Libya.

By Fareed Zakaria

Generals fight the last war, and that's a mistake. The international intervention in Libya has been backward-looking but in an entirely different sense. It has been prosecuted with the memory of the Iraq war firmly in mind. Only this time the approach has been to view the last war as a negative example. The international coalition — and even the Libyan opposition — is doing pretty much the opposite of what was done in Iraq. As rough-and-ready rules of the road go, this is not a bad one to follow. In deciding whether to intervene, President Obama was clearly trying to avoid the mistakes of Iraq. He insisted on a set of conditions before he would involve the U.S. in the operation. First, there had to be a local opposition movement that was willing and able to wage war against the dictator. Any international action had to be requested by the locals. Second, given the nature of the Arab world, it was important to gain regional legitimacy and ensure that outside intervention in Libya was not denounced as another example of Western imperialism in Muslim lands. Even Arab countries were drawn into the coalition. Third, a broader, legal legitimacy was sought through the U.N. And finally, European allies who were pressing for intervention were put on notice that the operation would have to be genuinely multilateral, with them bearing significant costs.

It is important to recognize how different this is from Iraq, where the Bush Administration — either through arrogance or incompetence — got almost none of these conditions fulfilled. There were many paths to meeting some of them. Had U.N. weapons inspectors been given more time in the spring of 2003, the U.N. Security Council might well have endorsed the plan. Countries like India were seriously considering sending tens of thousands of peacekeeping troops, but only if there was a U.N.-blessed operation with a U.S. commander who also wore a U.N. hat (as was the case in Bosnia). But these were seen as petty, legalistic annoyances, and the operation felt like an American one from start to finish.

Nowhere are the lessons of Iraq clearer than in the attention to cost. The Bush Administration decided it would do whatever it took to prevail in Iraq. If that meant a vast invading force, so be it. If that meant spending many years longer than was originally planned, so be it. And if that meant a massive increase in forces to quell what had turned into a raging civil war, so be it.

With Libya, the Obama Administration was determined to pursue the operation only if the costs could be kept manageable and shared. At the start of the deliberations, Secretary of Defense Robert Gates made clear that Libya was not a vital national interest of the U.S.'s, thus placing a limit on the costs the country would bear. And the Administration resisted a chorus of experts who urged the President to keep escalating in the hope of immediate victory. The President's critics on the right were merciless in describing his strategy as weak, messy and likely to fail. ...<sup>3</sup>

The fact is that the Libyan operation has been remarkably cost-effective. The direct costs of the Iraq war so far are about \$1 trillion, 5,000 American troops' lives and 10,000 Iraqi soldiers' lives. The direct costs of the Libya operation so far have been less than \$1 billion, about 0.1% of what has been spent on Iraq and with no American military casualties and minimal Libyan deaths. ...

(*TIME* September 5, 2011)

In this text the response to Libya war by the Obama Administration is compared with the response to Iraq War by the Bush Administration. The former is positively evaluated while the latter negatively. The purpose of contrasting is to emphasize the effectiveness of the former. More importantly, however, they are placed in a chronological order. The response

<sup>3</sup> ... in the passage indicates that subsequent sentences have been omitted for lack of space.

by the Obama Administration is explained as an effect of the cause, i.e., the response by the Bush Administration. In order to illustrate the relationship between the frame elements and propositions expressed in the text, a diagram is devised as follows:

$p$ : Response (factual)	$q$ : Desirable Consequence (factual)
<p>President Obama was clearly trying to avoid the mistakes of Iraq. He insisted on a set of conditions before he would involve the U.S. in the operation. First, there had to be a local opposition movement ...</p> <p>Second, ..., Third, ... And finally, European allies who were pressing for intervention were put on notice that the operation would have to be genuinely multilateral, with them bearing significant costs.</p> <p>With Libya, the Obama Administration was determined to pursue the operation only if the costs could be kept manageable and shared. ... thus placing a limit on the costs the country would bear.</p>	<p>The fact is that the Libyan operation has been remarkably cost-effective.</p> <p>The direct costs of the Libya operation so far have been less than \$1 billion, about 0.1% of what has been spent on Iraq and with no American military casualties and minimal Libyan deaths.</p>
$\neg p$ : Alternative Response (factual)	$\neg q$ : Undesirable Consequence (factual)
<p>the Bush Administration — either through arrogance or incompetence — got almost none of these conditions fulfilled</p> <p>these (many paths to meeting conditions) were seen as petty, legalistic annoyances, and the operation felt like an American one from start to finish</p> <p>The Bush Administration decided it would do whatever it took to prevail in Iraq. ... And if that meant a massive increase in forces to quell what had turned into a raging civil war, so be it</p>	<p>The direct costs of the Iraq war so far are about \$1 trillion, 5,000 American troops' lives and 10,000 Iraqi soldiers' lives</p>

This diagram does not include all the information expressed in the text, but it does not mean that the information excluded from it is irrelevant to the frame. For instance, the headline of the article *How the lessons of Iraq paid off in Libya* implies that some action or response taken in Libya War is going to be positively evaluated (see *paid off*). Also, the first five sentences of the text explicitly state that the response to Libya War by the international coalition (including the Obama Administration) was affected by Iraq War (see *It has been prosecuted with the memory of the Iraq war firmly in mind*), and is described as *doing pretty much the opposite of what was done in Iraq*, thus implying the logical relation of opposition between  $p$  and  $\neg p$ . Besides, Iraq War is negatively evaluated as *a negative example*, while the action in Libya War is evaluated positively as *not a bad one (road) to follow*.

It can be said that the frame is evoked even at the earliest stage of the comprehension process though at the initial stage, semantic properties of the elements may be left unspecified. In other words, the frame is accumulatively specified throughout the comprehension process.

For instance, in TEXT 1 the slots of the Desirable and Undesirable Consequences are filled with specific propositions only when the last paragraph is processed. The Response-Desirable Consequence sequence is further specified as the result of the Alternative Response-Undesirable Consequence sequence, which is reciprocally specified as its cause. It is further specified as *the mistakes of Iraq* and *the lessons of Iraq*. On the other hand, at the most general level of specification, the frame is reduced to the logical relation of biconditional with no status awarded to *p*, *q*, *not-p* and *not-q*.

At this point it is useful to compare the frame specification demonstrated above with that of the hortatory frame. The elements of the hortatory frame are all non-factual. The hortatory frame owes its forward-looking property to that particular pattern of specification. At a certain stage of specification, the hortatory frame can be expressed as follows: *In order to achieve the desirable consequence q and in order to avoid the undesirable consequence not-q that results from an alternative response not-p, the response p is recommended.* On the other hand, the frame at issue here is backward-looking in that it explains what happened in reality. It might be expressed as follows: *Once the alternative response not-p resulted in the undesirable consequence not-q, so this time the response p was made resulting in the desirable consequence q.*

Based on these observations, it can be said that one of the functions of the biconditional frame of which elements are all factual is to explain that a positive experience has resulted from learning a lesson of the past negative experience or learning from the past mistake.

## 2. A lesson missed

In this section, a text is analyzed in which the four propositions of the biconditional relation are all specified as facts but unlike Text 1 the desirable course of action cannot be considered to result from the lesson of the undesirable course of action. Neither is the undesirable course of action considered to precede the desirable course of action in time. Actually, the opposite is the case: the desirable course of action precedes the undesirable one. The text was also taken from the same magazine.

### Text 2

#### Collateral Crisis

How a successful U.S. campaign to cripple Islamist terrorists in Somalia contributed to a catastrophic famine that could kill hundreds of thousands

By Alexy Perry/Mogadishu

By late June and early July, when their goats were all gone and the last of their cows had sunk to their knees and died, the men told their families it was time to leave. In Daynunay, Haji Hassan and his children packed up what they had - a few rags, plastic bottles, some old cooking pots - and set out for Mogadishu, 250 km to the east. At every village they passed, their small group grew, first to a column of hundreds, then thousands, then tens of thousands, as millions across southern Somalia abandoned their homes. ...

A mass exodus, an emptying of half a country, is an unprecedented, biblical event. What triggered it? The immediate cause was drought. Rains failed last October in East Africa, then again in April, and by early August the U.N. was putting the number of people at risk from hunger in Djibouti, Ethiopia, Eritrea, Kenya, Somalia and Uganda at 12.4 million. ...

But drought just sets the conditions for famine; only man ensures it. The southern U.S. is in drought, but Americans aren't starving. Why? Because Americans have enough government and wealth. Likewise, one reason we are not seeing a repeat of the 1984 Ethiopian famine, in which a million people died, is that much of East Africa has progressed since then. Also, aid workers are now better at saving lives. An early-warning system first predicted East African food shortages 11 months ago, food aid has become more sophisticated and includes medicines and high-protein nut pastes, and improved disaster mitigation is matched by better prevention. Schemes like the U.S.'s \$3.5 billion three-year program Feed the Future push ever more

money into projects such as irrigation and food warehouses that raise people's ability to feed themselves. "It's really important we understand the progress even in the face of this tragedy," says Nancy Lindborg, who is leading USAID's famine response.

Such progress only throws the disaster in Somalia into sharper relief, however. Because if it is humans who produce or prevent famine, who made Somalia's?

The big difference between Somalia and the rest of East Africa is war. Somalis have been fighting one another and have lived without a central government for 20 years. Perhaps a million people have died. One symptom of this lawlessness is piracy. Another is the rise of Islamists. What began as a fight between clan warlords became, in its second decade, a struggle between warlords and militants demanding the imposition of strict Shari'a. The more extreme Islamists then formed al-Shabab, or "the Youth." For four years, al-Shabab has battled the official Transitional Federal Government (TFG).

U.S. is the key international player. ... When al-Shabab allied with al-Qaeda, it too found itself in American crosshairs.

The U.S. strikes when it can. When Ethiopia invaded Somalia in late 2006 to topple the Islamist government, U.S. Special Operations troops went with them and detained about 20 al-Qaeda suspects. Washington has also assassinated several Islamist leaders in Somalia, using Predator drones, cruise missiles launched from warships in the Indian Ocean and, once, a helicopter gunship. Those efforts are assisted by a CIA station in Mogadishu and U.S.-funded mercenary operations. Also, Washington bankrolls the unelected TFG, which is perhaps best understood as a U.S. attempt to create a Somali leadership whose authority does not depend solely on firepower. ...

(In the rest of the article, the writer reports how various types of human aid were disrupted by the American intervention which has been causing a lot of deaths.)

(*TIME* September 5, 2011)

In order to illustrate the biconditional specification of the text, the following diagram was devised.

<i>p</i> : Response (factual)	<i>q</i> : Desirable Consequence (factual)
<p>Americans have enough government and wealth. much of East Africa has progressed since then(1984)</p> <p>Also, aid workers are now better at saving lives. An early-warning system ...Schemes like the U.S.'s \$3.5 billion three-year program Feed the Future push ever more money into projects such as irrigation and food warehouses (Some progress was made in preventive measures.)</p>	<p>Americans aren't starving we are not seeing a repeat of the 1984 Ethiopian famine, in which a million people died (such projects) raise people's ability to feed themselves</p> <p>(Famine was prevented)</p>
$\neg p$ : Alternative Response (factual)	$\neg q$ : Undesirable Consequence (factual)
<p>Somalis have been fighting one another and have lived without a central government for 20 years ... For four years, al-Shabab has battled the official Transitional Federal Government (TFG) U.S. is the key international player ... The U.S. strikes when it can ...Washington bankrolls the unelected TFG, which is perhaps best understood as a U.S. attempt to create a Somali leadership whose authority does not depend solely on firepower. (The U.S is committed to the war )</p>	<p>By late June and early July, when their goats were all gone and the last of their cows had sunk to their knees and died, the men told their families it was time to leave. ... millions across southern Somalia abandoned their homes. A mass exodus, an emptying of half a country, is an unprecedented, biblical event.</p> <p>(A catastrophic famine caused a mass exodus)</p>

In the diagram, to make the point clearer the information filling each slot is summarized in the parenthesis at the bottom.

In Text 1 by virtue of the negative evaluation of the course of action taken by the Bush Administration the course of action taken by the Obama Administration was highlighted as a reaction to it. Highlighting the positive course of action that has materialized gives an impression of completeness to the whole text: a problem has been successfully avoided by an appropriate response. On the other hand, in Text 2 it is the negative course of action that is highlighted. The positive course of action is in that sense supplementary and it shows something that had been missed because of a mistake that was made. In this case, the point of the whole text is to emphasize the problem and its cause. Unlike Text 1, the text does not give the impression of completeness: there is a problem caused by a mistake.

### 3. Values have changed

In the text dealt with in this section, the biconditional frame is specified in terms of two courses of action of which elements are all factual like in the other texts so far discussed. The two courses of action are, however, not simply specified in such a way that one is positive and the other is negative.

#### Text 3

Terror in the night. Allegations of rape are tearing apart a Mennonite community in Bolivia

By Jean Friedman-Rudovsky/Manitoba Colony

Katarina Wall remembers little about the worst night of her life. She recalls waking up in her bed, seeing a man on top of her and feeling her arms too heavy to lift in resistance. ... "It was like a terrible dream," Wall, 36, tells TIME in her native Low German, weeping as she stands outside a courthouse in Santa Cruz, Bolivia.

Wall is among 130 women and girls of the Mennonite community of nearby Manitoba Colony who claim that from 2005 to '09, the same cloudy horror visited them. In a criminal trial now under way in Santa Cruz, nine Mennonite men are accused of spraying a chemical used to anesthetize cows through bedroom windows in Manitoba, sedating entire families and raping the females. One defendant, Peter Weiber, 48, a Mennonite veterinarian, allegedly developed the spray. One of the men is a fugitive; the others have pleaded not guilty. If convicted, each faces a maximum 30-year prison sentence.

The criminal charges detail depraved acts few would expect inside an upright sect like the Mennonites, a pacifist Christian Anabaptist denomination founded in Europe in the 1500s. "When there were no grown women" in the houses that the men allegedly targeted, says Wilfredo Mariscal, an attorney for the victims, "they did what they wanted with the kids."

More than 50,000 Mennonites with roots in Canada and Germany populate the Bolivian lowlands, where their world of horse-drawn buggies and sorghum fields is segregated from the surrounding indigenous country. Women's lives are particularly circumscribed. They wear uniform, hand-sewn dresses, raise large families and seldom venture to Santa Cruz, three hours away.

That patriarchal seclusion, say those familiar with such communities, can breed a culture of cover-up. "The denial of major problems in these colonies for decades has significantly compounded the problem," says Abe Warkentin, editor of Die Mennonitische Post, a German-language newspaper published in Canada that circulates widely among the hundreds of thousands of Mennonites who live throughout Latin America. In the 1990s, for example, some families of Mexico's Mennonite community were found to be growing and trafficking marijuana.

Abram Wall Enns, Manitoba's chief civic official from 2003 to '09, says community leaders had heard the rumors about alleged rapes but concedes they didn't take any action. "But we didn't know who was doing it," he says in tears, "so what could we do?" Then, in June 2009, one local woman caught two of

the defendants entering her house - and as each man began ratting out the others, enraged husbands, fathers and brothers began locking up the nine accused in sheds and basements. The defendants say their confessions to Manitoba leaders were given "only under threat of lynching," says defense attorney Luis Loza.

Even if the men, who range in age from 20 to 48, are convicted, closure will be difficult for the victims, especially since many feel they can no longer trust their insular community. Out of shame, many of the women no longer attend church, the colony's only real social space; the younger among them say they fear they are "stained" and will never be able to marry. The day Wall went to the Santa Cruz courthouse to testify, she did not tell her 13-year-old daughter where she was headed. The teenager was raped the same night as her mother - but she has no idea her mom was a victim too.

(TIME September 5, 2011)

The following diagram shows the frame elements and the corresponding information in the text. The information in < > has been added to make the point clearer.

<i>p</i> : Response (factual)	<i>q</i> : Consequence (factual)
<p>a culture of cover-up The denial of major problems in these colonies for decades community leaders had heard the rumors about alleged rapes but concedes they didn't take any action. (leaders condoned rape)</p>	<p>&lt;the Mennonite community existed as&gt; an upright sect a pacifist Christian Anabaptist denomination &lt;the Mennonite community existed in&gt; the patriarchal seclusion: Women's lives are particularly circumscribed. They wear uniform, hand-sewn dresses, raise large families and seldom venture to Santa Cruz, three hours away. (the community was maintained in a traditional way.)</p>
$\neg p$ : Alternative Response (factual)	$\neg q$ : Consequence (factual)
<p>In a criminal trial now under way men are accused The criminal charges detail depraved acts one local woman caught two of the defendants entering her house - and as each man began ratting out the others, enraged husbands, fathers and brothers began locking up the nine accused in sheds and basements. (victims sued the criminals for rape)</p>	<p>many feel they can no longer trust their insular community. Out of shame, many of the women no longer attend church, the colony's only real social space; the younger among them say they fear they are "stained" and will never be able to marry (the community was torn apart)</p>

First, it should be noticed that the frame specification represented by this diagram lacks the Desirable Consequence and Undesirable Consequence. Instead, they are both shown simply as Consequences. The reason for this is that neither of the consequences is clearly defined as desirable or undesirable. That value judgment seems to depend on which viewpoint the reader or analyst adopts. The maintenance of the community based on Mennonite traditional ways of life might be regarded as a desirable situation at least from the community leaders' pint of view. The situation, however, had been maintained only by means of cover-up of major problems of the community mainly at the cost of women's welfare. Then, can that Response-Consequence sequence be regarded as a desirable course of action? Similarly, allegations of rape are regarded as a positive response to the problem from the victims' point of view, but it may not be their intended goal to tear the community apart or it may be if they are motivated to liberate women from such an insular community.

Desirable and Undesirable Consequences are the elements that were originally posited for the description of the hortatory frame. Since it clearly specifies the positive course of action



to be chosen and the negative course of action to be avoided in order to function as a recommendation, the distinction between desirable and undesirable consequences is often clearly made. But in the case of the factual specification of the frame, recommending an action is not the point of the text. Value added to each element depends on the context and is not necessarily determined clearly.

It is also important to note that headlines or titles of articles often direct the reader to specify the frame in particular ways. In Text 3 the expression included in the title *Allegations of rape are tearing apart a Mennonite community* let the reader see a cause-effect relation between the action of allegations of rape and tearing apart of the community. Thus, either  $p$  or  $not-p$  is associated with allegations while either  $q$  or  $not-q$  is associated with tearing up the community<sup>4</sup>. Based on the logical property of opposition intrinsic to the biconditional relation a proposition such as *the community is not torn apart or is maintained* is inferred. Throughout the comprehension process the information that expands on the proposition is searched for. This is how the information shown in the slot for  $q$  in the diagram is understood: the conventional Mennonite ways of life signify the maintenance of the community. Similarly, based on the logical property of opposition of the biconditional relation cover-up of rape or inaction on the part of the leaders knowing it is regarded as the opposite response to allegations by the victims.

It should be added that in this interpretation of the text,  $p-q$  sequence precedes  $\neg p-\neg q$  sequence in time.

#### 4. Times have changed

In the previous section it was discussed that the specification of  $q$  and  $not-q$  as Desirable and Undesirable Consequences cannot necessarily be applied to the factual specification. In this section, a frame is described in which the elements cannot be specified as a pair of response-consequence relations.

#### Text 4

##### Prophet

How Ron Paul became one of the most influential voices in republican politics

By Alex Altman/Concord

Twilight descends in new Hampshire as an old man climbs onto his soapbox. LIBERTY: TOO BIG TO FAIL reads a banner hanging in the jam-packed tent. He is hardly a commanding figure, but a thousand people chant his name and lean in to listen, ready to follow, as Ron Paul delivers his genre-bending stump speech. There are no focus-grouped slogans, no empty calories: Paul's talk is more like a high-fiber graduate seminar on economic theory, forgotten history and the nooks and crannies of the U.S. Constitution. "The Federal Reserve system and all their members have been counterfeiters for a long time," he says, his reedy voice straining. "Sound money is connected to free markets and the freedom message and the Constitution, and we can bring this all together for people. It fascinates me, and I'm sure it must fascinate a lot of you also.

In normal times, Paul's esoteric pitch might leave voters bemused, bewildered or just bored. But these aren't normal times, and the rapt crowd roars its approval. The attendees share his conviction that a great man has met his moment in history. "Our time has come," Paul declares, and this time, it may be more than wishful thinking.

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<sup>4</sup> In the above analysis  $not-p$  represents allegations and  $not-q$  represents tearing up the community. this symbolic representation is, however, the result of representing cover-up as  $p$  and the maintenance of community as  $q$ . It can be reversed:  $p$  can represent cover-up and  $not-p$  can represent allegations; similarly  $q$  can represent tearing up the community and  $not-q$  can represent the maintenance of community.

For decades, the Republican Congressman from Texas has preached much the same brand of libertarian politics and Austrian economics. When he ran for President four years ago, Paul drew a zealous but narrow following, and his warnings that murky monetary policy, runaway spending and a sprawling foreign empire would ruin the country struck many Republicans as kooky. His GOP rivals smirked or simply ignored him. Although Paul raised a staggering \$35 million, he captured just 1% of Republican delegates.

But in the four years since, the world has changed in mostly grim ways that seem to affirm Paul's worldview. His vision of an eroding Constitution and a Washington-Wall Street cabal helped spark the Tea Party movement. Conservatives who once sneered at his foreign policy as being "isolationist" have grown weary of war. His call for a more accountable and transparent Federal Reserve has morphed from quaint obsession to mainstream Republican talking point in Congress and on the campaign trail. (The story continues about Paul's political life.)

(TIME September 5, 2011)

The following diagram was devised to illustrate the relationship between the frame elements and the information in text.

$p$ : Spatiotemporal Condition (factual)	$q$ : Undesirable Consequence (factual)
<p>In normal times, When he ran for President four years ago  (The world was not so grim)</p>	<p>Paul's esoteric pitch might leave voters bemused, bewildered or just bored Paul drew a zealous but narrow following, and his warnings that murky monetary policy, runaway spending and a sprawling foreign empire would ruin the country struck many Republicans as kooky. His GOP rivals smirked or simply ignored him. Although Paul raised a staggering \$35 million, he captured just 1% of Republican delegates. (Paul's view was not accepted)</p>
$\neg p$ : Another Spatiotemporal Condition (factual)	$\neg q$ : Desirable Consequence (factual)
<p>But these aren't normal times  In the four years since, the world has changed in mostly grim ways that seem to affirm Paul's worldview  (The world is grim)</p>	<p>A thousand people chant his name and lean in to listen, ready to follow, as Ron Paul delivers his genre-bending stump speech. The rapt crowd roars its approval. The attendees share his conviction ... "our time has come." His vision of an eroding Constitution and a Washington-Wall Street cabal helped spark the Tea Party movement. Conservatives who once sneered at his foreign policy as being "isolationist" have grown weary of war. His call for a more accountable and transparent Federal Reserve has morphed from quaint obsession to mainstream Republican talking point in Congress and on the campaign trail. (Paul's view appeals to people)</p>

In the diagram above, the specification of the elements is different from those in other texts. Though it may look a little cumbersome,  $p$  and  $\neg p$  are now referred to as *factual spatiotemporal condition*. Though the notion of condition may appear to be contradictory to that of fact, what *factual spatiotemporal condition* means is that the condition has been met or it has been confirmed as a fact. Text 4 reports a change that has occurred to Ron Paul:

how he became one of the most influential politicians from an unpopular Republican. This change, however, is not ascribed to some special action or response on his part: actually, his political stance has remained constant (see *For decades, the Republican Congressman from Texas has preached much the same brand of libertarian politics and Austrian economics*). It is because of the change in time that his situation has been reversed. From Paul's point of view time has changed for better. It is described as *the world has changed in mostly grim ways that seem to affirm Paul's worldview*. The expressions *normal times* and *these aren't normal times* indicate the contrast or opposition between the two spatiotemporal conditions. Unlike in the hortatory frame the propositions are not specified as two incompatible courses of action. Spatiotemporal Condition is a status given to a proposition which defines the situation or context in which Consequence is true. The relationship between them may be described as: *under the condition where p is true, q is also true*. Unlike a proposition specified as a response, a proposition specified as a spatiotemporal condition is often not an action but a state.

With respect to value assigned to each element, it cannot be so simply said that one course of event is positive and the other negative. As was indicated in the diagram, at least from Paul's point of view his greater appeal to the public is regarded as a desirable consequence while his situation four years ago is regarded as an undesirable consequence. The spatiotemporal conditions are, however, not so easily valued. For instance, the expression *the world has changed in mostly grim ways* values the condition negatively but from Paul's point of view it is the grim situation that has given him the chance to be successful.

## 5. Inference

In this section an example is presented where the biconditional frame is exploited for comprehending short implicative texts such as letters to the editor. The frame is exploited in such a way that some of its elements that cannot be specified with the explicit information retrievable from the text is inferred based on the logical relation.

### TEXT 5

#### World's Most Annoying Animal: Man

Andrew Marshall's article states exactly what I have been thinking since I first saw Steve Irwin's show many years before his death ["Tie Me Animals Down, Sport," Aug. 22]. I felt sorry for the countless snakes that got their tails pulled by the presenter. Now it seems most hosts are doing that. I miss the days when nature shows were about the animals and how they live in the wild, not how they react when harassed.

William Nophakoon, Bangkok

(*TIME* september 12, 2011)

It is often the case that the frame elements are not necessarily associated with any explicit information in text. In such a case, in order to complete the frame imposed, some kind of inference work must be done. It is important to note that the frame is not a linguistic property of text but a mental property which is constructed as a result of the reader's attempt to establish some coherence in text. To illustrate this active mental operation on the part of the reader, it would be useful to give an example of failure in establishing an appropriate frame. The diagram below was devised for this purpose:

$p$ : Response (factual)	$q$ : Desirable Consequence (factual)
?	<viewers watch> the animals and how they live in the wild
$\neg p$ : Alternative Response (factual)	$\neg q$ : Undesirable Consequence (factual)
<i>most hosts are doing that (pulling the tails of countless snakes)</i>	<viewers watch> how they react when harassed.

This diagram is designed for showing a case where the reader unsuccessfully tried to impose on the text the biconditional frame consisting of two courses of action. Pulling the tails of snakes by presenters is identified as a response and *I felt sorry* indicates that it is  $\neg p$  of the negative course of action. What the television show was about is identified as the consequence  $\neg q$ . Negation in the last sentence tells the reader that *watching animals and how they live in the wild* is the logical opposite  $q$ . At this point, however, the specification process is stuck. What is the proposition that is opposite to pulling tails of snakes and has the consequence of watching animals in the wild? (This question is represented by the question mark in the diagram.)

The text is actually understood better in terms of another specification of the biconditional frame. The diagram below is to show it:

$p$ : Spatiotemporal Condition (factual)	$q$ : Undesirable Consequence (factual)
the days when nature shows were about the animals and how they live in the wild	(animals were not abused)
$\neg p$ : Another Spatiotemporal Condition (factual)	$\neg q$ : Desirable Consequence (factual)
<the days when nature shows are about> how they react when harassed.	the countless snakes that got their tails pulled by the presenter. Now it seems most hosts are doing that (animals are abused)

The specification of this frame is completed by simply inferring  $q$  from  $\neg q$ . The frame elements are the same as those presented for Text 4. While the negative spatiotemporal condition-consequence relation chronologically precedes the positive one in Text 4<sup>5</sup>, in Text 5 the chronological order is opposite. Unlike in Text 4 time has changed for worse from animal-lovers' point of view. In addition to this kind of value judgment the reader is assumed to be trying to establish a frame that can be most consistently specified by both the explicit and implicit information of the text throughout the comprehension process.

## 6. Conclusion

The discussion in this paper has developed based on a basic approach which views text comprehension as a process in which the biconditional relation is variously specified. It is assumed that according to communicative purposes of text certain patterns of specification can be identified. One of them is the hortatory frame. Its specification is made in such a way that all the four elements are non-factual or hypothetical. The identification of this specification pattern led to my interest in the biconditional frame of which elements are all specified as facts. All the texts analyzed in this paper are assumed to be comprehended in

<sup>5</sup> This holds when that text is interpreted from Ron Paul's point of view.

terms of such a frame. If the hortatory frame is more generally regarded as a non-factual or hypothetical frame, the frame at issue in this paper can be regarded as a factual frame.

Discussion in this paper thus included a lot of comparison between the two patterns of specification. Based on the comparison I have come to see the contrast between the hypothetical specification and the factual specification in terms of different approaches towards Truth Table. The meaning of biconditional is defined on Truth Table as: it is true either when both  $p$  and  $q$  are true or when both  $p$  and  $q$  are false while it is not true when  $p$  is true and  $q$  is false or when  $p$  is false and  $q$  is true. It is possible to "talk about" this meaning of biconditional without confirming or determining the truth value of the propositions. Without committing oneself to the truth value of the propositions, one can always say, "If  $p$  is true, then  $q$  is also true, and if  $p$  is false, then  $q$  is also false." Talking about the meaning of biconditional is different from wondering whether the propositions are true or not. It is the former that is considered to be happening when the elements of the frame are specified as non-factual/hypothetical. On the other hand, one can, as it were, confirm the validity of biconditional on Truth Table. On Truth Table you affirm, for example, that  $p$  is true and  $q$  is true, thus proving that the biconditional relation is valid. This confirmation process is related to the factual specification of the biconditional frame.

Confirmation of the validity of biconditional is actually not completed by affirming both  $p$  and  $q$  since it also requires that  $not-p$  is affirmed (or  $p$  is affirmed to be false) and  $not-q$  is affirmed (or  $q$  is affirmed to be false). This part of confirmation process, however, cannot take place under the same spatiotemporal condition in which  $p$  and  $q$  are affirmed to be true. There must be some difference in time or space between the two occasions of confirmation. Otherwise, the confirmation process ends in contradiction.

The five texts dealt with in this paper are all considered to be interpreted in terms of the factual frame. They were selected to represent different patterns of specification and each of the specification patterns has been explained to play a unique communicative function:

The factual frame concerned with Text 1 specifies the relation between  $p$  and  $q$  as a Response-Desirable Consequence while that between  $not-p$  and  $not-q$  as a Response-Undesirable Consequence. The statuses such as Response and Desirable Consequence are the same as those for the hortatory frame. The undesirable or negative course of action precedes the desirable or positive course of action chronologically. The former is specified as a mistake and the latter a correct reaction to it.

The factual frame concerned with Text 2 is similar to that concerned with Text 1, but unlike in Text 1, in Text 2 the negative course of action is highlighted. Thus, the positive course of action represents a kind of missed chance and the highlighted negative course of action represents a mistake that has been made and a problem resulting from it.<sup>6</sup>

The factual frame concerned with Text 3 is also specified by means of two courses of action consisting of Response and Consequence. In this case, however, value added to each course of action is not clear-cut. It varies in accordance with different viewpoints presented in the text, which could also be related to the reader/analyst's evaluation. The frame is less specified than in the previous cases in that the value added to each course of action has not been determined.

The factual frame concerned with Text 4 has different elements: Spatiotemporal Condition. The proposition  $p$  or  $not-p$  in the specification cannot be regarded as an intentional action taken to achieve a desirable consequence or to avoid an undesirable consequence. It defines a spatiotemporal condition under which  $q$  or  $not-q$  is true. The contrast between two spatiotemporal conditions is typically understood as a change in time.

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<sup>6</sup> The difference in highlighting between the specifications of Text 1 and Text 2 corresponds to that between a recommendation and a warning found in the specification of the hortatory frame.

In Text 4, time has changed for better from the main character's point of view.

One point should be added with respect to its relationship with other specifications. The notion of spatiotemporal condition has been explained as a proposition that defines the condition under which its consequence is true. About this explanation one may wonder if the notion of factual response could also be explained in a similar way. Indeed, a factual response is an action that has been taken in reality, i.e., in a certain place at a certain time, thus defining the condition or context for the consequence. In the case of factual response, however, there is a lapse of time between the point where the response is taken and the point where the consequence materializes. Such a lapse of time is not there between the spatiotemporal condition and its consequence.

Text 5 was prepared for a rather different purpose. It was presented to emphasize one aspect of the frame: a frame as a mental operation. The specification process of a frame is regarded as the reader/analyst's active evaluation process of the text.

The factual frame concerned with Text 5 is the same as that concerned with Text 4, but between them there is difference in highlighting. In Text 4, the desirable consequence is highlighted and thus the text is understood as describing how time has changed for better. In Text 5, on the other hand, the undesirable consequence is highlighted and the text is understood as describing how time has changed for worse.

It can be concluded that the factual frame is variously specified in accordance with different purposes and at least some of the specification patterns and their functions have been identified and defined in this paper.

## Bibliography

- Allwood, J., Anderson L.G. and Osten, D. (1977) *Logic in Linguistics*. Cambridge: Cambridge University Press.
- Anderson, R.C. (1977) "Schema-directed processes in language comprehension" *Center for the Study of Reading Technical Report*, 50
- Austin, J.L. (1962) *How to do things with words* Oxford: Oxford University Press
- 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.
- (2006) "Discourse, context and cognition", *Discourse Studies*, 8(1):159-77
- Dijk, T.Van and Kintsch, W. (1983) *Strategies of Discourse Comprehension*. New York: Academic Press.
- Gallistel, C.R. (2001) "Psychology of Mental Representation" *International Encyclopedia of the Social and Behavioral Sciences*, 9691-5
- Grasser, Arthur C., Mills, Keith K. and Zwaan, Rolf A.(1997) "Discourse Comprehension", *Annual Review of Psychology*, 48: 163-89.
- 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.
- (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) 176-207.
- (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.
- (1988) "Some advances in clause relational theory", in J.D. Benson and W.S. Greaves (eds.) (1988).
- Ohashi, S (2010)<sup>1</sup> "The Biconditional Frame", *Kanagawa University International Management Review*, 39:201-219.
- (2010)<sup>2</sup> "The Hortatory Frame: A Type of Biconditional Contextualisation of Clauses", *Kanagawa University International Management Review*, 129-147.
- Sinclair, J.McH (1981) "Planes of discourse" in Sinclair (2004) 51-67.
- (1994) "Trust the text" in Coulthard, M (ed.) (1994)
- (2004) *Trust the Text*. London: Routledge.
- Sinclair, J.McH. and Coulthard, R.M. (1975) *Towards an Analysis of Discourse: The English Used by Teachers and Pupils*. Oxford: Oxford University Press
- Sinclair, J.McH, M. Hoey and G. Fox (eds) (1993) *Techniques of Description: Spoken and Written Discourse* (a festschrift for Malcolm Coulthard). London: Routledge.
- Tannen, D. (1978) "The effect of expectations on conversation" *Discourse Process* 1:203-9
- (1985) "Frames and schemas in the discourse analysis of interaction" *Quaderni di Semantica* 6: 313-21
- (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.
- Whitney, P. (2001) "Schema, Frames, and Scripts in Cognitive Psychology" *International Encyclopedia of the Social and Behavioral Sciences*, 13522-6
- 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.