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INTENTIONAL BEHAVIOUR: A LINGUISTIC VIEW

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The main purpose of this study is to discover any possible relationship between intentional thought, language and reality. In order to obtain some empirical proof which could shed new light on this issue, we have selected eight 500-words texts with different styles: (1) two political debates; (2) two political dialogues; (3) two technical writings; and (4) two current affairs articles. It is obvious that the speaker/writer of each of these texts have different intentions. If there were any type of relationship between thought, language and reality, it should be discovered when analysing radical different contexts and authors. For this reason, we are going to examine: (1) the semantics of all the verbs and (2) the type of grammatical subjects used in all these texts.

1. INTRODUCTION

Does the structure of a language influence how its speakers view the world? Or does the speakers' view about the world influence the structure of a language? These two questions are related to the so called Sapir-Whorf hypothesis. Although this is not the main topic of this paper, it is highly related to it. We normally speak of "intentionality" as one human quality related to his/her desires, mental activities or psychological states, but what about its relationship with language, are they inextricably related so that one can not understand or appreciate the one without a knowledge of the other?

Going back to Moore and Russell, there are verbs which, taking into account their semantics, can be described as "intentional verbs", that is, verbs like "think, expect, intend, desire, etc. . ." which imply the speaker's attitude towards something (proposition, action or object). So, could we affirm that intentionality is a feature of linguistic utterances less than of thought? As Glock (2001: 111) points out: "According to the causal theory, the content of an intentional state or utterance is identical with or determined by those external circumstances which cause it." And this is exactly what we are going to try to prove: to what extent can we speak of this narrow relationship? For this purpose, we have selected eight 500-words texts with four different styles: political debate (texts I and II); political dialogue (texts III and IV); technical writing (texts V and VI); and current affairs article (texts VII and VIII). What we are going to do is to carry out (1) a semantic study of the verbs and (2) a grammatical study of the subjects used in each text. In this way, we could find any possible correlation.

2. INTENTIONALITY OF LANGUAGE VS. INTENTIONALITY OF THOUGHT: PARALLEL OR CONNECTED?

The problem of intentionality is not an easy one. Although there have been many studies devoted to the investigation of the relationship between language and thought (Hans-Johan Glock, 2001; H. Putman, 1975; R.G. Millikan, 2001 and 1984; J. Fodor, 1975 and many others), no unanimous agreement has been reached. Some of them, like Millikan (2001), propose that language and thought are in a type of parallel relationship so that ". . . the intentionality of each is defined independently of that of the other: thought is possible without language, and language is possible that does not convey thought." (Millikan, 2001: 157).

This position contrasts to that of others who point to the narrow relationship between language and thought. In one study carried out by K.A. Feinfield, P.P. Lee, E.R. Flavell, F.L. Green and J.H. Flavell (1999), they try to (1) make clear the difference between intentions, desires and outcomes; and (2) state the age at which one individual normally apprehends the difference. In relation to the first point, they explain that these three elements are basically different. They state that (K.A. Feinfield et alii, 1999: 465):

> "Although desires and intentions are closely related mental states, this example shows that they are not identical. Just as one can desire an outcome but not intend to do anything to bring it about, so one can intend to bring about an outcome one does not desire."

But human beings are not born with this discerning capacity. K.A. Feinfield et alii (1999) conducted three studies with preschoolers' understanding of prior intention and intention-in-action and they concluded that (Feinfield et alii, 1999: 463):

> "The 3-year-olds, especially the younger ones, showed little ability to distinguish intentions from desires and outcomes. In contrast, most of the 4-year-olds were able to make these distinctions consistently."

There are two very important factors to add to this conclusion:

(1) children who had been linguistically pretrained did better than those who had not.

(2) It is normally agreed that the acquisition of a first language is almost always completed when the child is four or five (C. Lleó, 1997).

So, it seems that language is an important aspect which contributes enormously to the development of the intention-desire-outcome distinction.

In addition to these psycholinguistic factors which support the existence of a close relationship between thought and language from the area of Neurolinguistics, there is a good number of publications concerning the aphasia symptoms[1] in different languages. M. Paradis (2001) introduces a collection of papers which provides specific indications on the characteristic manifestations of aphasia symptoms in fourteen languages: African-American

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[1] Aphasia is a severe impairment to speech produced by damage to specific brain regions. If the damaged area is the so-called Broca's area, then one individual will speak in short, ungrammatical sentences. If the injured area is the Wernicke's area, then he will speak in fairly grammatical sentences but almost devoid of meaning.

English, Afrikaans, Basque, Catalan, Czech, Farsi (Persian), Finnish, Friulian, Greek, Hebrew, Hungarian, Polish, Spanish and Swedish. He concludes that (Paradis, 2001: 90):

> "Possible aphasic symptoms are determined by the phonological and morphosyntactic structure of each type of language, the number of obligatory (as opposed to optional) contexts, the frequency of occurrence of items in the language and their semantic weight. The grammar (implicit linguistic competence) provides constraints (possible choices). Pragmatics selects among these available grammatical choices (languages, registers, indirect speech acts, figurative speech, syntactic constructions). Pathology limits the available choices, either in grammar (subsequent to a left-hemisphere lesion) or in pragmatics (subsequent to right-hemisphere damage). Therefore, the same underlying deficit may cause different surface manifestations in different languages."

Seemingly, there is a close connection between thought and language. Two human beings affected by aphasia make similar mistakes if they share the same linguistic backgrounds, but they will produce different types of errors if they speak different languages because these deviations are highly restricted by the grammar of the language.

3. Contextualisation

Another factor to take into account when considering the relation language-thought is related to the way our minds develop; is there any type of connection between our mental developments and our linguistic developments? Do they go hand in hand or do they follow different paths? Millikan (2001: 163) states:

> "The perceptual, cognitive and conative systems of the human, we assume, have a normal way of developing from embryonic form to their mature adult state. This normal development is describable, however, only with constant referent to input from an environment that is "normal" in a variety of respects, "normal", in particular, relative to very broad features of the historical environment of the human species . . . humans growing up in widely different environments tend to behave in ways adaptive in those environments."

This is supported by the previous reference to individuals affected by aphasia. As it was noted, speakers with different linguistic backgrounds developed different types of errors. It is also very interesting to note that there is a further connection between environment and mental development in the sense that societal and geopolitical factors also affect aphatic individuals. As Paradis (2001: 87) points:

> "In some cases (e.g. Basque, Catalan, Friulian) the inherent bilingualism of the speaking community may have to be taken into consideration and systematic interference due to the influence of the other language may be routinely observed . . . This influence (unidirectional or mutual) may be observed at any or all levels of linguistic structure (phonological, morphological, syntactic and lexical)."

In a paper titled "Intentionality and language", Glock (2001) examines in detail any type of connection between these two and one of the ideas which is to be taken into consideration is that an intentional state or utterance is always dependent on the external circumstances. He states that (Glock, 2001: 111):

> "Roughly speaking, then, the content of an intentional state is determined by those external circumstances with which the state covaries provided that the cognitive system which produces it is working in the way for which it was selected by evolution."

As a result, it could be said that there is an undeniable connection between thought-intentionality-language and context. They influence each other in a way that a damage or error or change in one of them seriously affects the other. And this idea finds supporting evidences from the discipline of the psycholinguistics as well as neurolinguistics.

4. EXEMPLIFICATION

But now, it is necessary to find some linguistic confirmations which could demonstrate this idea.

Glock (2001) argues that intentionality is also a feature of linguistic utterances. In fact, when referring to the logico-semantic problems, he explains that the so-called "intentional verbs" occur mainly in three sentential forms (see Moore and Russell):

(1)	A	Vs (thinks/believes/expects, etc.)	that p
(2)	A	Vs (intends/plans/means, etc.)	to Φ
(3)	A	Vs (loves/desires/thinks about)	X

Where:

"A" = the subject.

"V" = different types of intentional attitudes.

"that p"; "to Φ"; "X" = their content.

The extent linguistic and mental intentions correlate can be explored by asking the following question: is there any type of relationship between our purposes when we speak or write and the specific linguistic means we use?

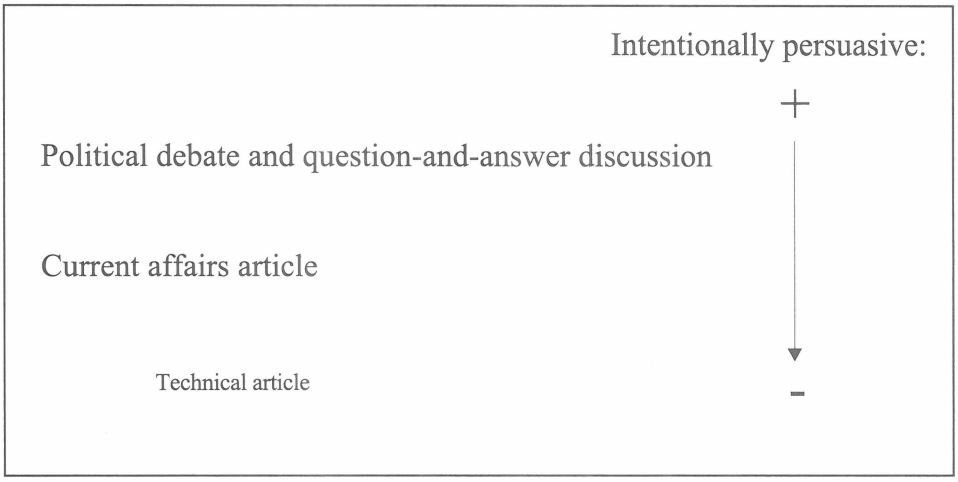
In order to shed some new light on this issue, we have selected four different styles of writing/speaking: political debates, political question-and-answer discussions, technical writings and current affairs articles. Obviously, the politician's, the scientist's and the journalist's intentions are very different. For example, we can guess that whereas a politician's main purpose at Parliament is to persuade, a primary goal for a journalist writing about cities is to inform -without any evident attempt to change his/her readers' attitudes, beliefs or behaviours. Anyway, we should call attention to the fact that, after having read a journalist's article, a subject could have changed his/her opinions about something, but in these cases we have to keep clear in our minds the difference between a direct and an indirect consequence or, in other words, an intended and an unintended outcome. Anyway, it is not my intention to present "to persuade" and "to inform" as two opposites. As Burnstein and Schul (1982: 88) argue:

> ". . . the persuasiveness of an argument depends on its informativeness, that is, on (i) the amount of implicit information it contains; (ii) the availability of a schema for activating this

> information; and (iii) the usefulness of the information in deciding between alternative positions, beliefs, solutions, courses of actions, etc."

So, obviously, we can say that there is a very narrow relationship between both, but, what about the orientation of these two behaviours? We can assert that when an individual A is trying to persuade an individual B, he hopes he can get some personal benefit out of it. But, when A is informing B about X, what A really hopes is that his/her listener improves or enlarges his/her knowledge about X. So, we can affirm that whereas the benefit of a persuasive message is basically speaker's oriented, that of an informative is mainly listener's. As I stated before, they go hand in hand: when one informs somebody about something s/he may produce some changes in the addressee's beliefs, attitudes, or behaviour. But we have to specify that this is not the primary goal but an ulterior consequence. As Zegarac and Clark (1999: 323) state: "All human behaviour is informative in the sense that it provides evidence for inference".

If we had to describe the language used in each text in terms of their "persuasive intentionality" we could grade them in the following way:



4.1. Method

4.1.1 Texts

First of all, we selected two 500-words texts representative of each style. In fact, they were the following ones:

(1) Political debates:

Texts I and II: Two 500-words debates which took place at the House of Commons (4th and 8th October 2001). The Prime Minister (Mr. Tony Blair) talks about a Coalition against International Terrorism which was constituted soon after the 11th September tragedy. He will explain to the House the British involvement in this Coalition and the operations which are being carried out.

(2) Political question-and-answer discussions:

Texts III and IV: Two 500-words extracts from an Oral Answers to Questions session which took place at the House of Commons (21st and 26th November 2001). In the first one, the Secretary of State was asked about International Development (Afghanistan) and in the second about Defence (Far East, British Civilians). In both of them the Secretary of State will have to answer to a series of questions posed by members of Parliament. What is really interesting about this process is that if the questioner is not satisfied with the answer, he may add a "supplementary question" which was not previously known by the Secretary of State. Thanks to this procedure, these turns are very similar to the ones you can find in an ordinary conversation. Anyway, we have to remember that there are strict norms which rule these turns and the language used.

(3) Technical articles:

Text V: A 500-words extract from a technical book titled *Plastics and Agriculture*[2].

Text VI: A 500-words extract from a technical article titled "Geomechanical Aspects of Problem on Open Mining of Deposits"[3].

(4) Current affairs articles:

Texts VII and VIII: Two 500-words current affairs articles published in the magazine *Ronda IBERIA* (October, 2001). The first one is titled "Cuzco, Stone Magic" (page 113) and the second "The Jewish quarter of Gerona" (page 67). Both of them are descriptions of two cities.

4.1.2. Procedure

The first step was to limit the length of all the texts so that we could reach fair results. Five hundred words texts were thought to be a good choice.

The second step was to look for all the verbs used in the texts. The first problem we had to face was how to analyse present and past participle forms. It was decided that when these forms were used as adjectives or nouns they would not be included in our list because they did not involve any type of activity but a state. So, examples such as the following ones were not taken into account:

> "talking doll" (present participle with adjectival function)
>
> "covered surfaces" (past participle with adjectival function)
>
> "walking is good for you" (present participle with nominal function)

Although examples like these were excluded, when the participle still preserved its verbal nature, it was included in our list. For example, when we read: ". . . which allows

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[2] P. Papaseit, J. Badiola and E. Armengol, *Plastics and Agriculture*, Reus, Ediciones de Horticultura, 1997, pp. 20-6.

[3] V. Yakovlev, A. Sashurin, A. Zubkov and A. Yakovlev , "Geomechanical Aspects of Problem on Open Mining of Deposits", *Journal of Mining Science*, 37: 4 (2001), pp. 367-8.

them to operate with impunity in *pursuing* their terrorist activity", "*pursuing*" describes an activity (= "when they *pursue* their terrorist activity") and so it has a verbal function.

The third step was to classify these verbs. Obviously, we took into account their semantic value (see for example Beth Levin, 1993) because we think that this is the best way we can catalogue the type of activity developed by the speaker who utters the sentence. In this way, we discovered the following categories:

(1) Those verbs which describe intentional attitudes (a psychological state, a mental activity or a desire). For example: agree, accept, confirm, mean, consider, know, acknowledge, want, desire, plan, decide, make sure.

(2) Verb "to be" (except "there + to be" which was included in "existence").

(3) Those verbs which describe a mere existence: there + to be or any other existential verb, remain, take place, be possible, exist, become, found, disappear, live, happen.

(4) Those verbs which describe location: intern, imprison.

(5) Those verbs which describe time: take x time.

(6) Those verbs which describe a relation: separate, consist, contribute.

(7) Those verbs which describe a process: emerge, continue, to be naturalised, increase, result.

(8) Those verbs which describe a perception: see, show, watch, hide.

(9) Those verbs which describe a possession: share, have.

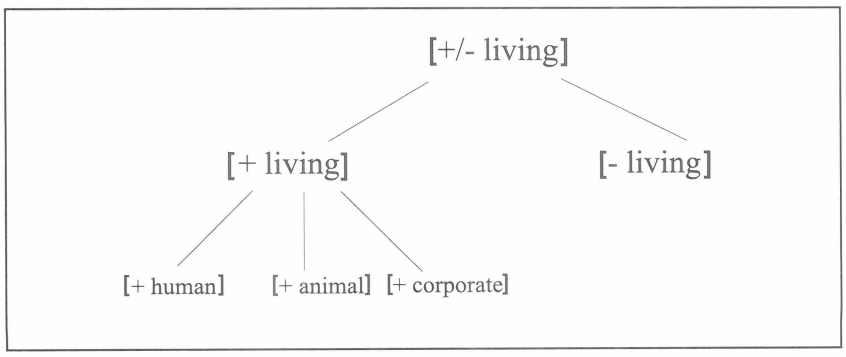
(10) Those verbs which describe communication: recall, say, detail, cover, report, tell, respond.

(11) Those verbs which describe an action: do, work, carry out, operate, put, release, begin, fire, destroy, act, give, help, use.

(12) Those verbs which describe appearance: appear, modernise, differ.

(13) Those verbs which describe motion: meet, enter, come, walk, flee, accelerate, travel, climb.

The fourth step was to analyse the nature of the subjects of the actions, that is, is it a living creature? Is it human? Taking into account these parameters, we used the following features:



When classifying human agents, it was also specified the real author, that is, if the grammatical subject (a) included the speaker ("I" / "we"); (b) was the person the speaker was addressing to ("you"); or (c) was a third person ("s/he" / "they"). We also had to include under another group those sentences where the subject, (un)intentionally, was absent. In this case, we used the label "impersonal sentences"; these included sentences such as: ". . . targets *are not being met*"; "what can be done urgently *to address* that problem?"; ". . . to ensure that good aid *is delivered*".

4.2. RESULTS

See tables 1, 2, 3 and 4.

4.3. DISCUSSION

In relation to the verbs of intentional attitude, it is very interesting to note that 78'5% of them were used in the political texts: 44'3% in the debates and 34'2% in the dialogues. In contrast to these results, the technical texts only used 5'1% of all these verbs. If we remember our description of the types of languages used in terms of their "persuasive intentionality", we will discover appealing similarities: the one that was thought to be the most intentionally charged was the political speech (both the debate and the dialogue) and the least was the technical style.

In addition to these results, it is also very interesting to pay attention to the type of subject that each verb has. The first person singular or plural (that is, "I" or "we") was only used 12'7%. Again, 95% of them were found in the political texts (55% in the debates and 40% in the dialogues), and, exactly as what happened with the verbs of intentionality, the lowest percentage corresponded to the technical style: 0%.

When looking at the numbers which show how many sentences with no subject (i.e. "impersonal") were used, it is revealed that most of these forms are found in technical speech (27%). So, these percentages suggest that whereas politicians prefer first personal references in contrast to impersonal references, scientists favour impersonal references. In this way, the speaker's voice[4] is almost null in the case of technical writings and omnipresent in the case of political speech.

Finally, in relation to those verbs whose subjects were marked as [- living], texts V and VI (technical) used 56, that is, 65% of all the verbs found in these two texts (in contrast to 29'7% in the debates, 22'2% in the dialogues, and 42% in the magazine articles).

So, the conclusions are obvious, those texts which were described as "+ presuasive intentionality" used most of the verbs of intentionality and first person references. In contrast, those texts (V and VI) which were described as "- persuasive intentionality" not only used the lowest number of verbs of intentionality but also the highest number of impersonal sentences and [- living] subjects. Texts VII and VIII (magazine) always stayed in a kind of mid position and, as we can remember, it was described as "+/- persuasive intentionality".

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[4] And this implies his/her preferences, attitudes, opinions, etc.

5. Conclusion

There is a close relationship between thought and language. As it has been shown in this paper, intentionality of thought finds a direct linguistic correlation. After having analysed eight 500-words texts with four different styles (two political debates, two political dialogues, two technical papers and two current affairs articles in a magazine) it has been empirically demonstrated that those where the writers/speakers showed a lower involvement also used (1) a lower number of verbs of intentionality and (2) a higher number of impersonal and [- living] subject sentences where the speaker's/writer's voice (and so his/her intentions) was almost omitted.

Clearly, in the future, it would be very useful to carry out a similar study but contrasting two different languages. In this way, as in the studies about aphasia, any possible relationship between intentionality and its specific linguistic means could be shown.

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Table 1: Verbs of intentional attitude [5]

		Intentional attitude / Total number of verbs	TOTAL
Debates	Text I	**20** / 59	35 / 131
	Text II	**15** / 72	26'7%
Dialogues	Text III	**13** / 74	27 / 148
	Text IV	**14** / 74	18'2%
Technical articles	Text V	**0** / 41	4 / 85
	Text VI	**4** / 44	4'7%
Magazine	Text VII	**8** / 59	13 / 109
	Text VIII	**5** / 50	11'9%
TOTAL			79 / 473 16'7%

Table 2: Other verbs[6]

	Debates		Dialogues		Technical Art.		Magazine		TOTAL
	Text I	Text II	Text III	Text IV	Text V	Text VI	Text VII	Text VIII	
Be	10	15	17	17	5	3	13	14	394/473 83'3%
Exist.	3	5	5	1	5	2	4	4	
Locat.	0	0	0	5	0	2	2	1	
Time	0	1	0	0	0	0	2	1	
Relation	0	0	0	1	2	3	2	1	
Process	1	1	0	1	6	5	1	0	
Percep.	1	0	0	1	1	1	2	1	
Possess.	3	1	3	3	1	2	1	2	
Commun.	4	8	11	6	3	0	5	3	
Action	13	25	19	24	15	19	17	13	
Motion	4	1	5	1	1	2	2	3	
TOTAL	96/131 73'3%		121/148 81'1%		81/85 95'3%		96/109 88'1%		

[5] It shows the number and distribution of intentional verbs found in every text.

[6] It shows the number and distribution of the rest of the verbs found in every text.

Table 3: Subjects[7]

		SUBJECT						
		[+living]					[- living]	Impersonal
		[+ human]			[+ animal]	[+corporate]		
		I / We	You	S/He / They				
Debates	Text I	15	0	20	0	2	13	9
	Text II	18	0	7	0	14	26	7
Dialogues	Text III	15	0	10	0	20	20	9
	Text IV	9	0	25	0	4	13	23
Technical articles	Text V	0	0	0	0	4	25	12
	Text VI	0	0	2	0	0	31	11
Magazine	Text VII	3	4	10	0	11	21	10
	Text VIII	0	0	14	0	3	25	8
TOTAL		60	4	88	0	58	174	89

Table 4: Subjects (percentages) [8]

		SUBJECT						
		[+living]					[- living]	Impersonal
		[+ human]			[+ animal]	[+corporate]		
		I / We	You	S/He / They				
Debates	Text I	55 /131	0	27	0	16	39 / 131	16 / 131
	Text II	42%					29'8%	12'2%
Dialogues	Text III	40 / 148	0	35	0	24	33 / 148	32 / 148
	Text IV	27%					22'3%	21'6%
Technical articles	Text V	0 / 85	0	2	0	4	56 / 85	23 / 85
	Text VI	0%					65'9%	27%
Magazine	Text VII	5 / 109	0	24	0	14	46 / 109	21 / 109
	Text VIII	4'6%					42'2%	19'3%
TOTAL		60 / 473	4	88	0	58	174 / 473	89 / 473
		12'7%					36'8%	18'8%

[7] It describes the semantic properties of the grammatical subjects of the verbs above mentioned.

[8] The previous numbers (see table 3) are shown in percentages.