ISSA Proceedings 1998 – Towards A Proposition Of The Argumentative Square

1. Introduction

In his semantic description of language, Ducrot puts forward a rather provocative thesis, with respect to traditional semantic theory, namely, that words do not mean anything if meaning is understood in terms of vocabulary, by which he defies the primacy of the informative in the account of meaning. The informative is said to be derived from and subordinated to the argumentative, which is, in turn, presented as inscribed in language and defined in terms of argumentative orientation, topoi and enunciators (viewpoints). The notion of lexical enunciator unfolds the argumentative potential in a word (lexeme), i.e., points of view formulated according to four basic topical forms. It is tempting to imagine the four topical forms as a taxonomy of viewpoints and present them in a square model.

The square model has already been used in logic and narrative semiology, and there were attempts to see Ducrot's work related to and even explicable by them, especially, since the names of some relations (e.g. contradiction and contrariety) repeat in some or all of the theoretical frameworks. Ducrot has explicitly drawn a line of separation between, on the one hand, the semiotic square and the logical square, and, on the other hand, his own theoretical path**[i]**. On a closer inspection – which is impossible to be deployed here due to the limitations of time and space – one could indeed realize there is no direct theoretical import between them. The logical and semiotic squares differ from the one that could be reconstructed from Ducrot's work to a great extent in their fundamental elements, function and nature, definitions of relations and treatment of meaning and truth.

As the four-angled form itself has nothing to do with the incompatibilities between Aristotle, Greimas and Ducrot, it is possible to attempt and arrange the four topical forms in a square model. However, the structural relations in – what let it for the purpose of this paper be called the argumentative square – must, accordingly, be defined and understood differently than in the logical or semiotic squares.

2. Ducrot – Theory of argumentation in the language-system – TAL

The general thesis of TAL is that "the argumentative function of a discourse segment is at least partly determined by its linguistic structure, and irrespective of the information which that segment conveys about the outer world" (Ducrot 1996: 104). Let me summarize Ducrot's explanation of the main concepts introduced by the general thesis of TAL on a single example. Suppose two people are considering how to get back to their hotel:

1.

A: "Would you like us to walk?"

B*: "*It's *far away."*

An *argumentative function* is actually an *argumentative orientation* of an enunciator's viewpoint, which means that a certain viewpoint is "represented as being able to justify a certain conclusion, or make that conclusion acceptable." (Ducrot 1996: 104) In the example provided, the answer would by most of us be understood as oriented towards a refusal of the suggestion. Representing a certain distance by terms 'far away' functions as an argument for not walking. A special stress is put on the expression represented as being able to justify instead of simply saying it justifies a certain conclusion. It means that it is not a question of what cause or factor leads effectively to a certain conclusion, but rather what argument is represented as having such a strength within a particular discourse.

It is important, though, that our answer does not convey information about the (f)actual distance. The term 'far' can be used fairly irrespective of the actual quantity of metres/kilometres, and is, therefore, not a description of reality. I am fairly sure there is no consensus over how much is 'near' and from which point on a distance is considered to be 'far'. Instead, the term rather conveys our attitude towards a distance and our company. Namely, if, for example, B would favour a walk with A, he/she would probably find the same distance less bothering and, in a certain sense, even too short, and might accordingly answer:

1.

(A: "Would you like us to walk?")

B: "Of course, it's *nearby*,"

which would, in turn, be oriented towards accepting the proposal. We can see that an argumentative function is dependent on the choice of words we used, which led Ducrot to conclude that an argumentative function is at least partly determined by the linguistic structure. Basically this thesis is understood in terms

of enunciators, whose argumentatively oriented viewpoints are said to be intrinsic to the very language system. By different enunciators**[ii]**, found within a single utterance, Ducrot understands the sources of different points of view, or better, viewpoints with different argumentative orientation. Ducrot uses the term borrowed from Aristotle and refers to the viewpoints of nunciators as topoi. Topos is the element of an argumentative string that bridges the gap from an argument to a conclusion by relating the properties of the former and the latter. It is a shared belief, common knowledge accepted beforehand by a certain community and rarely doubted about. We can analyse the following argumentative string:
2.
"It is far, so let's take a cab"
into an argument A: "It is far"
a conclusion C: "let's take a cab"
and topos T: If the distance is great, one should take a means of transport.

Within this paper I would like to concentrate on the concept of lexical enunciator. Lexical enunciator stands for the idea that argumentatively oriented viewpoints are a constitutive part of lexicon items – words. The explanation of lexical enunciators requires a few more theoretical concepts. Topos has three characteristics: it is general, common and scalar. Scalarity of a topos is understood as the scalarity of the relationship between the property of an argument and the property of a conclusion. The properties themselves are scalar – they are properties you can have more or less of. The degree of one property implies the degree of the other. The four possible combinations of degrees of involved properties are called topical forms. Referring to our last example (2), the following topical form was used:
FT: The greater the distance, the more one should rely on a means of transport.
Let me now demonstrate in detail how it is possible to analytically reconstruct topical forms as constitutive parts of lexemes. Ducrot considers the following four adjectives that seem to have common informative content: 'courageous', 'timorous', 'prudent', and 'rash'. In principle they all relate to confronting danger, to the fact of taking risks, but differ to a great extent in argumentative sense (see Scheme 1). Regarding the two properties P (taking risks) and Q (quality) that support the argument and the conclusion, we can distinguish two contrary topoi: T1, which relates the notion of risk to the notion of goodness, and T2, which relates the notion of risk to the notion of badness. Each contrary topos can, according to the notion of scalarity, be understood in terms of a scale with two

converse topical forms (FT1’ – FT1’’ and FT2’ – FT2’’) standing for the converse argumentative orientations. Thus we get the following scheme:
Scheme 1
The four topical forms can be formed as follows:
T1: taking risks (P) is a good thing (Q)
FT1’: the more one takes risks, the worthier one is (+P,+Q)
FT1’’: the less one takes risks, the less worthy one is (-P,-Q)
T2: taking risks (P) is a bad thing (Q)
FT2’: the more one takes risks, the less worthy one is (+P, -Q)
FT2’’: the less one takes risks, the worthier one is (-P,+Q)
The converse topical forms are the two directions of the same topical scale composed of many degrees. A point of conversion presents a problem, namely, a person either performs or does not perform an act. That is why the line in the model presenting the converse relation is disconnected.

We can now see how the scheme explains the points argued by Ducrot.
The meaning of lexical enunciators can be analytically translated into topical forms that have different argumentative orientation. Lexical enunciators are units of the lexicon and topical forms are understood as constitutive of their intrinsic meaning (which is primarily argumentative). This is one of the arguments, according to Ducrot, for his thesis that argumentative orientation is inscribed into the very language-system.

Although it seems to be analytically possible to distinguish the objective objective (informative) content from the subjective (argumentative) orientation, Ducrot tries to prove that they are actually amalgamated, and that the common objective component observed in the two contrary topoi is merely illusory. The smallest denoted component is already seen from opposing points of view that build up into two different notions – in Ducrot’s example one perspective deals with risks that are worth taking (P1), while the other, in fact, considers the risks as unreasonable to be taken (P2). By this Ducrot proves that tempting as it might be to consider that the argumentative is merely added on top of the informative, the two are actually amalgamated to the extent that what is perceived as the informative is derived from and dependent on the argumentative (P1 and P2 instead of P). In the case of lexical enunciators the viewpoint contained in a lexical unit contains the idea of quality**[iii]**, namely, conclusion seems to be a judgement, an attribution of value to what is observed. It seems, therefore, that

by communicating we, contrary to our belief, do not so much convey the information of what happened, but at the same time place a much greater stress on our attitude towards the occurrence and persons involved.
In accordance with his already mentioned belief that viewpoints are represented as being able to justify a certain conclusion, Ducrot claims that we choose (not necessarily consciously or strategically) the appropriate lexical item (that is, item with appropriate argumentative orientation) with respect to the attitude we adopt towards the person spoken to**[iv]** or our discursive intentions**[v]** to create our version of what is happening.

3. A proposition of the argumentative square
A proposition of the argumentative square is derived from Ducrot's oppositions between topical forms. As the analysis of lexical enunciators showed, an important factor in the definition of relations is also the quality attributed to an entity, which reflects our attitude towards an entity and/or our communicative intentions. The terms that will be used in the explanation of the following scheme are taken from articles reporting on a particular football match. It is my belief that the distribution of terms into their relational slots of the square model is highly dependent on an actual discourse, therefore, let me first give an outline of the context within which articles were written and published. On 2nd April, 1997, national football teams of Slovenia and Croatia met in the qualifications for the World Cup in France, 1998. Before the match the Croatian team was, by both sides, considered to be the favourite. Still, they were under pressure, because they badly needed to win and score three points to get qualified. The score was a draw – 3:3, which is important to remember and compare to interpretations it underwent in reports. A draw meant that each of the teams got one point. For the Slovenian team this was the first point ever scored in the qualifications for the world championship. A draw for them was a success, although this point was not enough for them to participate in the World Cup. For the Croatian team, on the other hand, there was still a chance to get qualified, but their next opponent was expected to be much tougher and this chance seemed rather meagre. The terms used in the example were collected from several articles published in the Slovenian as well as Croatian newspapers.

The argumentative square comparing definitions of the result could be formed in the following way (the reconstructed topical forms are included in the explanations of the respective relations):

Scheme 2

Contrariety is primarily the relation between topoi, that is, between two contrary perspectives and evaluations of seemingly the same occurrence (P). However, the occurrence is far from being the same. The first topos presupposes the match to be a true reflection of skills (P1), and the second, on the contrary, presupposes the match not to be indicative of the real quality of the teams (P2). The reporters seem to be reporting on two distinct matches – P1 and P2 – and, accordingly, applying two contrary topoi:

T1: Success (in P1) is to be attributed a positive value.

T2: Success (in P2) is to be attributed a negative value.

Although reporters are all referring to the same match, the readership is actually offered two contrary accounts that, at the level of social signification, construct two different pictures and form opposing attitudes. That is why definitions can be very important, especially, when they serve as a basis for decision-making and entail social or political (re)actions**[vi]**.

Conversity is the relation between the two opposing topical forms of the same topos. They both agree in seeing the occurrence in the same way, for example, they both deny that the match was a true reflection of skills (P2) and consequently apply topos T2. According to whether the result in such a match was considered a success or a failure, they differ in evaluation of the teams:

FT2': The more you succeed (in P2), the less appreciation you get.

FT2'': The less you succeed (in P2), the more appreciation you get.

Calling their performance a 'stroke of luck' (FT2') attributes the team, which is represented as being successful, a negative value. I believe you would agree that a 'stroke of luck' implies that their success is to be attributed to good fortune or even an inexplicable coincidence, and not to their skills and capabilities. Conversely, calling their performance 'bad luck' (FT2'') attributes the team, which is represented as being unsuccessful, a positive value. Again, I believe you would agree that 'bad luck' implies that something beyond their qualities prevented their otherwise good skills from realizing their potential.

The two crossing relations (FT1' – FT2' and FT1'' – FT2'') deserve most of our attention. It seems they would well conform to the name of joking relations. The name is taken from Mauss (Mauss 1928) and Radcliffe-Brown's (Radcliffe-Brown 1940, 1949) texts, where they, from the anthropological point of view, examine

the ways in which people within a society (they mainly focused on families) take effort to avoid conflict and thereby maintain social order. Social structure and especially structural changes, conjunction and disjunction, as in the case of marriage that draws closer two social groups that were up to then clearly distinguished, set the members of those groups into positions where there is an increased possibility of interest clash. Chances of conflict between the newly related members can be avoided in two ways: by exaggerated politeness (between son in law and mother in law) or joking (between brothers and sisters in law). Joking is understood as an avoidance of conflict and not the cause of it – the proof for that is found in Radcliffe-Brown's substitute term permitted disrespect. It refers to the conventionalized uses of disrespect, or better, disrespect found between those members of a family, where it does not endanger communication, but is moreover a sign of social intimacy, directness and relaxed attitude. Within a social group or society, it can be quite rigidly set which of the two forms is appropriate between which members. But their precise distribution is not universal to all societies. What seems to be universal, though, is the presence of both ways of avoiding conflict and the balance of their distribution.

By introducing joking relations Radcliffe-Brown and Mauss established an important link between social structure and social interaction, which is a combination that is today becoming increasingly important in the research of the interactional basis of social life. Joking relations therefore prove to be a very important principle also for the research into contemporary societies, where family might not be recognized as the most important social group any more. The following quotations should testify to the topicality of this view today. Gumperz in his foreword to Brown and Levinson's book (Politeness 1978) describes politeness to be "basic to the production of social order, and a precondition of human co-operation, so that any theory which provides an understanding of this phenomenon at the same time goes to the foundations of human social life." (Foreword: XIII) Later on in the book the authors wrote: "We believe that patterns of message construction, or 'ways of putting things', or simply language usage, are part of the very stuff that social relationships are made of (or, as some would prefer, crucial parts of the expressions of social relations). Discovering the principles of language usage may be largely coincident with discovering the principles out of which social relationships, in their unteractional aspect, are constructed: dimensions by which individuals manage to relate to others in particular ways, " (Brown, Levinson 1978: 55)

Reconsiderations of Mauss and Radcliff-Brown's theories today necessarily include many concepts from contemporary anthropology, sociology and interactional studies that were not used by them. I would herewith again refer to Brown and Levinson's study of politeness, where they enumerate the following context dependent social factors that contribute to the overall weight of a potentially offensive act and through its estimation influence the choice of higher-ordered politeness strategy: social distance**[vii]**, power**[viii]** and ranking of imposition**[ix]**. Within this paper provisional and most simplified correlation will be adopted only to indicate a basic model against which variations in use can be observed and studied – respectful patterns of behaviour are typically (but not only!) found in situations of social distance, power difference and high rank of imposition, while joking might be most commonly (and with least risk of causing conflict) applied in relations of social intimacy, equality in power and low rank of imposition.

Joking relation could, in accordance with Ducrot's four topical forms, be defined as the relation between those two topical forms of the contrary topoi that take up different attitudes towards the subject involved. One point of view ascribes the subject a positive value, while the other presents him in a negative manner. What connects them is, extralinguistically, the performance (or lack of performance) of seemingly the same action. However, as explained,the representation of the action involved is, intralinguistically, not the same.

For example, joking relation is the relation between 'victory' (FT1') and 'a stroke of luck' (FT2') that can in our case be reconstructed as follows:
FT1': The more you succeed (in P1), the more appreciation you get.
FT2': The more you succeed (in P2), the less appreciation you get.

By 'victory' one approves of the result, even if one does not like it, since it presupposes the match to be a true reflection of skills, while by a 'stroke of luck' one reveals that one considers the result inadmissible, since the term presupposes the match not to be indicative of the real quality of the teams, and actually implies that the result should be different if the skills were the decisive factor. Either ways, though, one team is represented as being more successful than the other, although the result was, technically speaking, a draw! The argumentative potential might be so much more obvious in the following examples. The reporter supporting the home team, which was represented as more successful, actually talked of 'a historical victory', 'sensational draw' and

‘lethal stroke’, while the reporter supporting the less successful team confirmed his definition of the result – ‘a stroke of luck’ – by calling the more successful team ‘second-class players’.

One point of view pays respect to the subject of the action, and even upgrades its qualities, which is typical of a politeness strategy, the other can be considered joking, or rude, since it downplays the exhibited value of the subject and the action it performed. The choice of either of them is dependent on the relation between the two interactants in our case reporter towards the team (or even worse, the state the team represents) and/or reporter’s intentions. With Radcliff-Brown and Mauss joking should be understood as permitted disrespect. But since communication break-down is a constitutive part of interaction, the concept of rudeness and offence should nevertheless not be neglected. The argumentative square should include both interactional functions for the purpose of explaining why and where communication went wrong.

The orientation followed throughout this explanation of the argumentative square can be summarized as follows: what we say is as important as its wording – the actual choice of words, and the word-choice is influenced by the identification of the relation between the speakers. We can, therefore, conclude that what we communicate is to a high degree dependent on who we are communicating with. This is similar to Ducrot’s statement, in which he claims that we choose lexical units with regard to our attitude towards the person spoken to and our discursive intentions – that argumentative orientation determines the informative.

Let us take another example. A student comes out of an examination room and is asked by his fellow students how demanding the lecturer was. The student might call the lecturer ‘detailed’ or ‘hairsplitting’, depending on whether he/she wants to attribute him/her positive or negative value, and whether he/she considers the lecturer’s comments appropriate or inappropriate. The argumentative square and the respective topical forms could be formed like this:
Scheme 3
T1: Accuracy is respected.
FT1’: The more one is accurate, the more one is respected.
FT1’’:.The less one is accurate, the less one is respected.
T2: Accuracy is not respected.
FT2’’: The less one is accurate, the more one is respected.
FT2’: The more one is accurate, the less one is respected.

‘Detailed’ attributes the lecturer a positive value, since it presupposes that such strictness is reasonable and as such respected. Calling a lecturer ‘hairsplitting’, on the other hand, presents him/her in a negative manner, since it presupposes that the strictness involved is unnecessary or even ill-intentional. Since we all were students once, we probably all remember that such definitions of lecturers are highly subjective, depending on our own likeness of a lecturer and/or especially the grade we received.
By calling a person ‘hairsplitting’, we might run a risk of a conflict. The most impressing thing is that we can, and I think we actually do mostly (although not necessarily strategically or consciously), change our opinion of the action and person (fake or even lie) for the purpose of keeping our relation towards the person concerned. It seems that we somehow tend to perceive the actions of some people as worth of appreciation and tend to express a higher view of their action sometimes solely for the purpose of maintaining our relation. Let us suppose a third party was present at the exam, a young assistant. After the student has left the room, the lecturer might inquire about his/her own methods, asking his/her assistant whether he/she was not too demanding. The assistant’s answer:
3. “You were quite detailed, true, but that’s what an examination is all about,”
might be understood in terms of presenting the senior as reasonable in order to maintain hierarchical relation, especially, if to his/her friends the same assistant would talk of his mentor as ‘hairsplitting’. Yet, maintaining a relation might not always be one’s intention.

We must now briefly focus on the nature of the correlation between interactional and social patterns. Although social relations and, accordingly, expected interactional patterns seem fairly rigidly imposed upon us, this is only one aspect of the relation between social order and people living it, where interactional patterns can be understood as reproducing the established social relations. This is the so called conservative or passive aspect. The other is dynamic. Here the adoption of a certain interactional pattern contributes to the creation or establishment of a certain relation between interactants – it functions as a proposal of a certain relation that can be accepted or rejected. Even towards our closest friends we can take on both kinds of attitude – respectful and joking.

Let us imagine a person A tells a person B some confidential information. Person B reveals this information to his/her partner – person C. When A finds out, he/she just might accuse B of ‘babbling out’ the secret. This definition presupposes that

secrets need to be kept secret, and since B revealed it to another person, he is attributed a negative value, namely, is considered to be unreliable. C, on the other hand, wants to protect his partner saying B was 'frank'. This is a characteristic that is respected and what it implies is that such a person does not hide anything, but is always straightforward, open and honest. Person C, therefore, in spite of the same social rank, expresses respect towards B. Does not thereby C actually stress B's exceptionality and raise him from the average? Does not C establish a distance between B and all the others, and empower B in that respect?

Equally, one can adopt a joking relation with one's boss, for example, by saying something like:
4. "Haven't you *babbled* it *out* the other day?"

If one's boss accepts it, which means, he/she does not get insulted nor does he take any revengeful actions, does not they actually set the common grounds? In principle the provisional correlation still holds. What changes is that the new social relation gets constructed, although only temporarily. With Brown and Levinson this tendency is called reranking of social variables. Situation is an important factor in this respect. As in our previous example of young assistant, one might adopt a polite attitude towards one's boss when he/she is present, or in the presence of his/her colleagues, while report in a joking manner about the same occurrence when reporting it to the people of one's own rank.

4. Conclusion
Let me briefly sum up what has been said about the argumentative square. The four topical forms stand for four argumentatively oriented viewpoints or enunciating positions. They are social viewpoints in two senses. In most cases they are common-sense beliefs acknowledged by a community. They can also be more personal (private) beliefs, but as such negotiable: accepted or rejectable within a stretch of communication, which is a good enough reason to call them social.

The four viewpoints seem to have something in common. They seem to establish a relation between the "same" properties. One of the most important Ducrot's achievements included in this square is that it points to the illusory common nature of these characteristics. This is illustrated already by the contrariety of topoi, but the best illustration is provided by the joking relation. In case of lexical enunciators (that were the primary study case), the two terms of the joking

relation can refer to materially the same person and situation. Still, what is seen is not the same at all – one's attitude towards the person is different as well as is one's interpretation and understanding of the action performed by him/her. This is possible, because material and social worlds with their respective meanings are not the same. The argumentative square is meant to contribute to the understanding of the latter only. There is another set of terms that is usually associated with the introduced issues, namely truth/falseness. There is no place for this opposition within the argumentative square either. Language usage is about presenting something as true and real, it is about social reality that is necessarily relative to perspectives, enunciating positions, viewpoints. This is a perspective common to constructivistic line of argument. I refer here to Jonathan Potter's book Representing Reality (1996), where descriptions are seen as human practices and that they could have been otherwise. The relevance is put on "what counts as factual rather than what is actually factual" (Potter 1996: 7).

The model is dynamic in two ways. Every topical form has its argumentative orientation towards a certain conclusion. Since in the case of lexical enunciators the conclusion seems to be the attribution of quality to the person spoken to or about, the chosen topical form can either maintain or attempt to construct a certain type of social relation. Word-choice, understood in this way, plays a vital role in day-to-day stretches of talk, where accounts get constructed.

It was said that topical forms stand for argumentatively oriented viewpoints or enunciating positions. It should now be stressed that the argumentative square primarily illustrates the argumentative orientations of the four topical forms pertaining to two contrary topoi. Each of them can be more or less strongly supported by more then one actual terms or argumentative strings understood, therefore, as degrees on topical scales. For example, the following terms share the same argumentative orientation, but differ in the strength of quality attribution: 'failure', 'defeat', 'fiasco', 'national tragedy'. The meaning of actual terms is relative to communities and furthermore changes in time and place. Further difficulty with terms is that every term can not so easily be classified as a lexical enunciator, and sometimes an argumentative orientation of what other times the problem proves to be finding different terms for all four orientations. The argumentative square should be understood as a structural analytical model, irrespective of the concrete terms and applicable to any existing topoi. Its shortest definition would therefore read: the argumentative taxonomy of social viewpoints. It serves best for the analysis and demonstration of relativity of those definitions that express contrary accounts of what, extralinguistically, appears to

be the “same” situation.

NOTES

i. “Those who work within Greimas’ semiotic perspective say that those four adjectives are the four angles of a square the Greimas square being a sort of adaptation of Aristotle’s logical square. I am not going to go into criticism of those conceptions: I prefer to give you my own way of describing those four adjectives.” (Ducrot 1996: 188)

ii. Polyphonyis a concept that within seemingly uniform notion of a speaker distinguishes three agents, which do not necessarily coincide with one single person: the producer, the locutor and the enunciator.

iii. “it seems to me that in the word itself, as an item of the lexicon, there is a sort of justification of ‘elegance’, – a justification which is like a fragment of discourse written into the word ‘elegant’ I do not think one can understand even the meaning of the word ‘elegant’ without representing elegance as a quality to oneself.” (Ducrot 1996: 88 and 94)

iv. “It is not at all on the grounds of the information provided that you can distinguish the thrifty from the avaricious, it seems to me. The difference is in the attitude you adopt towards the person you are speaking about” (Ducrot 1996: 132)

v. “at times, depending on our discursive intentions, we represent a risk as worth taking and we have consideration for the person who takes it and at others, on the contrary, in our discourse, we represent the fact of taking risks as a bad thing.” (Ducrot 1996: 188)

vi. The point argued might get its full importance with the following example. We can daily read about the so called ‘crises’ around the world, where opposing forces are described in two contrary ways. Since we are not physically or otherwise directly present, our understanding depends solely on articles we read or news we hear. Let me stress that even more important than our own understanding is the understanding of those who decide on the quality and quantity of help or sanctions. Rough categorizations would be as follows: ‘defensive forces’ vs. ‘rebellions’ or ‘repressive forces’ vs. ‘liberators’. The first pair of terms presupposes a justified regime and accordingly portrays those who are against it as unreasonable, while the second pair of terms presupposes the regime to be unfair and, accordingly, considers it to be reasonable and even liberating to act against it. The selection of terms applied is based on reporters’ point of view, their pre-existing attitude towards the regime in question and not

actual happenings.

vii. Social distance is 'a symmetric social dimension of similarity/difference within which S(peaker) and H(earer) stand for the purpose of this act. In many cases (but not all), it is based on an assessment of the frequency of interaction and the kinds of material or non-material goods (including face) exchanged between S and H'. (Brown and Levinson 1978: 76)

viii. Social power is 'an asymmetric social dimension of relative power, roughly in Weber's sense. That is, P(H,S) is the degree to which H can impose his own plans and his own self-evaluation (face) at the expense of S's plans and self-evaluation.' (Brown and Levinson 1978: 77)

ix. Ranking of imposition is 'a culturally and situationally defined ranking of imposition by the degree to which they are considered to interfere with agent's wants of self-determination or of approval'. (Brown and Levinson 1978: 77)

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ISSA Proceedings 1998 – Does The

Hedgehog Climb Trees?: The Neurological Basis For 'Theoretical' And 'Empirical' Reasoning Patterns

1. Introduction

Human beings use two contrasting patterns of reasoning, often called the "empirical" ("pre-logical", "traditional") mode and the "theoretical" ("logical", "formal") mode. The contrast between these two modes is most marked in discourse when the demands of logical patterns contradict common-sense attitudes and the ability to establish the reliability of premises. Thus, the following syllogism (Scribner 1976: 485):

1. All people who own houses pay house tax. Boima does not pay a house tax. Does he own a house? can have in actual discourse two different answers. One exemplifies the theoretical mode of reasoning, and is assumed to be the correct one:

1.1 a. No, he does not.

The second answer is:

1.1 b. Yes, he has a house.

with further elaboration (if asked): "But he does not pay the tax, because he has no money." This mode is called the empirical mode. In discourse, referring to the situation described in the cited syllogism, it is the "incorrect" traditional pattern of reasoning, and not the logical one, that is correct. Similarly, syllogisms with false premises like (2):

2. All monkeys climb trees. The hedgehog is a monkey. Does the hedgehog climb trees, or not?

also can be given two different answers: one theoretical, but false (which deductively follows from the premises):

2.1 a. Yes, he does.

the other an empirical, inductively oriented one, with the claim that either the second premise is false:
2.1 b. The hedgehog is not a monkey, or that one does not know what it is all about or whether it is true at all:

2.1 c. I have not seen hedgehogs, I do not know whether they climb trees or not .

According to cross-cultural and educational studies people in pre-literate cultures invariably respond empirically to such questions; in fact, they seem unable to comprehend a request to say what follows from a set of premises when they do not have first-hand knowledge that they are true. Pre-school and very early school-age children in all cultures likewise respond empirically, according to educational and developmental studies. These findings have prompted a number of questions. What causes the transition from the pre-logical to the logical mode? Is it an ontogenetic development, or is it culturally conditioned? If the latter, is the determining factor literacy alone, or a specific kind of schooling? When children (or pre-literate adults) acquire the logical mode, do they still use the pre-logical mode? How is the ability to use these modes grounded in the brain? In particular, what contribution does each hemisphere of the brain make to each mode? In what follows I aim to synthesize the results of twentieth century research into these patterns of reasoning. In particular, I will describe some unique but little known neurological research which shows that, contrary to Piaget's and others' claims, the empirical, pre-logical mode remains a part of the discursive repertoire of adults in literate European-type civilizations. It is located in the right hemisphere of right-handed people, whereas the logical mode is located in the left hemisphere.

2. Developmental research
Piaget (Piaget 1954, 1971; Piaget and Inhelder 1951) proposed a hypothesis of stages of cognitive development, and asked at which stage formal operations appear. Piaget claimed that they appear at a later, fourth stage (between 12 and 15 years**[i]**, when interpropositional and intrapropositional connections are acquired, and that they involve abilities of two types – to deal with the inner structure of a proposition and to understand causal, inferential and other connections between propositions. Later, Piaget and his followers rejected Chomsky's "predetermination" position of the inborn nature of cognitive stages, including reasoning abilities (Green 1971, Piattelli-Palmarini 1979). Some participants in the polemics between Chomskian "innatism" and Piagetian

"constructivism" – Cellérier, Fodor, Toulmin, et al. -maintained, however, that the two approaches are compatible.

3. Cross-cultural research

Cross-cultural studies started with Lévy-Bruhl's (1923) claim that the mode of thinking in a "primitive" society follows its own laws and differs from that of an "advanced" society**[ii]**. He called this mode "prelogical", as opposed to the advanced "logical" mode. As was pointed out later by Luria (1976: 7), Lévy-Bruhl was the first to state that there were qualitative differences in the primitive way of thinking and to treat logical processes as the product of sociohistorical development.**[iii]**

The first experiments in checking differences in patterns of reasoning with usage of syllogisms were undertaken by a Soviet psychologist, Alexander Luria, as part of a wider investigation of cognitive development in the context of cultural and social changes**[iv]**. The research was undertaken in the early thirties in remote areas of Uzbekistan and Kirghizia at the period when traditional, preliterate populations "met" with the new contemporary social and economic conditions. The results were presented in Luria's monograph, *Cognitive Development: Its cultural and Social Foundations* (1977).**[v]** They defined the form (work with syllogisms) of further research in this area in different parts of the world (Cole, Gay, Glick & Sharp 1971; Cole & Scribner 1974; Scribner 1976; Sharp, Cole & Lave 1979; etc.).

3.1 Luria's experiments

Luria's experiments involved two groups of people. One included illiterate men and women from remote villages who were not involved in any modern social activities -"non-schooled" individuals. The other group included men and women with some literacy training (from very basic to more advanced) who were participating in modern activities (running the collective farms in different capacities, education of children in kindergartens and in primary schools) – "schooled" individuals. The subjects were presented with two types of syllogisms – one type with content related to the subjects' own practical experience, the other with content not related to such experiences. The syllogisms consisted of major and minor premises and of a question, to which the subjects were asked to provide an answer. Testing aimed at the following abilities:

1. Ability to repeat the whole syllogism**[vi]**. The goal was to see whether the subjects perceived a syllogism as a whole logical schema, or only as isolated

statements.
2. Ability to make deductions in two types of syllogisms:
a. those with familiar content in the premises and
b. those with unfamiliar content. The goal was to see what type of mode they follow. In both cases subjects were asked to explain how they arrived at their answer, in order to see where they used their practical experience and where the answer was obtained by logical deduction. The results were as follows:
1. *Repetition of syllogisms*: Schooled subjects saw the overall structure of the syllogism, and repeated it easily. Non-schooled subjects saw the syllogism not as one unit, but as a number of unconnected statements. Here are some examples (Luria 1976: 102-117):
3. Precious metals do not rust. Gold is a precious metal. Does it rust or not?

The repetitions of the non-schooled subjects were like the following:
3.1
a. Do precious metals rust or not? Does gold rust or not?
b. Precious metals rust. Do precious metals rust or not?
c. Precious metals rust. Precious gold rusts. Does precious gold rust or not? Do precious metals rust or not?

4. The white bears exist only where it is very cold and there is snow. Silk cocoons exist only where it is very hot. Are there places where there are both white bears and cocoons? Repetitions:
4.1
a. There is a country where there are white bears and white snow. Can there be such a thing? Can white silk grow there?
b. Where there is white snow, there are bears, where it is hot, are there cocoons or not?

2. *Deduction*
a. Syllogisms with familiar content related to everyday experiences, but transferred to new conditions, as in:
5. Cotton grows where it is hot and dry. England is cold and damp. Can cotton grow there or not?

Responses: Non-schooled subjects refused to make any deductions even from this type of syllogism. The major reason for refusals was reference to lack of personal experience (5.1. a, b); only when they were asked to take the words for truth did

they sometimes agree to answer (5.1.c). Often if they agreed to answer, the answer ignored the premises, and reasoning was carried out within another framework of conditions (5.1.d):
5.1
a. I have only been in the Kashgar country. I do not know beyond that.
b. I do not know, I've heard of England, but I do not know if cotton grows there.
c. From your words I would have to say that cotton shouldn't grow there…
d. If the land is good, the cotton will grow there, but if it is damp and poor it won't grow. If it's like Kashgar country, it will grow there too. If the soil is loose, it can grow there too, of course.

b. Syllogisms with unfamiliar content, where inferences can be made only in the theoretical mode:
6. In the Far North where there is snow, all bears are white. Novaya Zemlya is in the Far North. What colour are the bears there?

Responses: Non-schooled subjects more strongly refused to deal with such syllogisms, often on ethical grounds (6.1.a), or in case they agreed (under special request) to speak, premises were either missing or ignored (6.1.b, c, d), since the subjects made use only of personal experience:
6.1
a. We always speak only of what we see; we don't talk about what we haven't seen.
b. There are different sorts of bears.
c. There are different kinds of bears, if one was born red, he will stay red.
d. I do not know, I've seen a black bear, I have never seen any other. Each locality has its own animals. If it is white, it will be white, if it's yellow, it will stay yellow.

In contrast, schooled participants were able in both tasks to solve all the problems: recognize a syllogism, accept the premises, and reason on their basis.
Luria's conclusions were as follows. Non-schooled subjects reason and make deductions perfectly well when the information is part of their practical experience; they make excellent judgements, draw the implied conclusions, and reveal "worldly intelligence". But their responses are different when they work with unfamiliar content and must shift to the theoretical mode: they do not recognize a syllogism as a unit (its disintegration into separate propositions without logical connection) and mistrust the premise with content outside their personal experience.

Luria interpreted these differences in reasoning performance within Vygotsky's theoretical position that "higher cognitive activities remain sociohistorical in nature and… change in the course of historical developments" (Luria 1976, 8), and that sociohistorical development is similar to the development of a child's cognitive abilities.

3.2. Post-Luria research

Luria's observations were confirmed in diverse cross-cultural**[vii]** and education-related researches on the cognitive development of students of different ages/level of education (Scribner 1977; Sharp, Cole & Lave 1979; Scribner & Cole 1981; Tversky & Kahneman 1977; etc.). All studies confirmed that there is a profound difference in the way syllogisms are solved by different groups of people: by educated /literate vs. non-educated /illiterate in cross-cultural tests, and by students of different levels in American schools and universities.

The phenomena described by Luria have been interpreted**[viii]** by scholars of different specialties (see discussion in Kess 1992, Foley 1997, and Ennis 1998). Some tried to give an account of the phenomena from the point of view of the input of literacy, education and the social environment in development of reasoning processes. Others directly or indirectly connected this issue with developmental problems or with psychological studies of inference in general.

4. Literacy, social changes and education

Cross-cultural and educational studies demonstrated that there is a correlation between literacy, social environment and education on the one hand, and the students' ability to treat logical problems in a theoretical or empirical mode on the other. It was stated that after a certain level of education individuals are ready to accept a syllogism as a self-contained unit of information which can be dealt with in its own right "as a logical puzzle" (Sharp, Cole & Lave 1979: 75), whereas less-educated individuals "assimilate" the content of the premises to previous experience. The controversy was whether it is education (formal schooling, of which literacy is an obligatory component), or just literacy on its own which is responsible for the cognitive development involving syllogism solving.

Olson (Olson, Torrance, Hidyard 1982; Olson 1994) claims that literacy is sufficient for the formation of syllogism-solving abilities, since literates think in a different way than illiterates, because literacy transforms the nature of thinking: thinking about the world vs. thinking about the representation of the world (Foley

1997: 422). The “literacy” position, though, is not supported by empirical work in education. Scribner and Cole (1981) established in studies among Vai, who have an indigenous vernacular script and are literate in it, that literacy without modernized Western-type schooling does not lead to usage of formal syllogistic reasoning. They see the source of reasoning in literacy in English in the Vai society, which is inseparable from western-type schooling, which includes some specific social practices. Evidently all western-type literacies, which go back to the Greek tradition of reasoning, have this effect on cognitive development.

4.1. “Discourse” theory

Observations in cross-cultural and educational studies gave rise to a “discourse theory” to account for the differences between usage of formal syllogistic reasoning and usage of empirical reasoning. According to this theory, semantic decoding of any text is based on knowledge of the genre (which are actualized in “scripts” or “scenarios” – terms introduced in studies in artificial intelligence – Schank and Abelson 1977, Minsky 1986). Recognition of the genre, and of the script, provides all the implied semantic connections and implicit inferences in the text. Empirical reasoning, used by non-educated people who lack Western-style literacy, relies on traditional oral genres, such as folktales, riddles, myths, legends, narratives, etc. (Scribner 1977, Olson et al. 1982), a list which does not include such a genre as syllogism. So non-schooled people cannot make use of the genre which they do not possess. If they are asked to use it (as in Luria’s and other cases), they simply do not see any sense in doing this, since the syllogism is not a way of reasoning in everyday life. In contrast, for schooled individuals the syllogistic form is a special genre/script with its own laws, a kind of a “game” with familiar rules, a fixed, boxed-in, isolated entity (Ong 1982). The semantic resolution of this script is fully dependent on its inner content and the rules for relating the premises. One is not supposed to check the accuracy of the content in the outside real world. When an individual learns how to use this genre, there is no difficulty in using it, especially in the setting of an experiment where its usage is expected. The syllogistic pattern of reasoning is a part of Western-type schooling, and it is easily acquired in its simple form.

The discourse theory explanation looks highly plausible. If it is correct, it gives rise to another problem: Do schooled subjects completely switch from the empirical way of reasoning to the formal one, or are they using both strategies. Many authors in

cross-cultural research mention in passing that usually individuals use both

strategies. This issue will be discussed in more detail in connection with neurological experiments.

4.2. Reconsideration of a developmental interpretation

The data of cross-cultural and educational age-dependent research on operational thinking calls for reinterpretation of Piagetian developmental position. Piaget stated that a) there are four obligatory stages of cognitive development, b) they appear and succeed one another at a certain age, and c) there are qualitative differences in mental processes between the stages.

Cross-cultural studies do not support the idea that the fourth stage, when formal thinking develops, is ontogenetically obligatory, because in pre-literate cultures individuals do not automatically develop it. Piaget is right that this ability appears at a certain age. But it is evident, that it appears not in the course of ontogenesis, but only in the course of certain cultural needs in the society which puts forward certain cognitive tasks. Thus, differences in operational thinking do not constitute part of the "normal" course of development, but are the outcome of schooling and differences in social environment (Brown 1977, Tulviste 1979, Ong 1982), which provide a special type of genre – the syllogism. The question still remains open, however, whether after developing formal, logical ways of thinking individuals still preserve and use "pre-logical'' empirical modes.

This question is known as a problem of "thought heterogeneity", and it was much discussed since Lévi-Strauss (1966) from many points of view. Cognitive psychological research has contributed a lot to discussing this problem.

5. Psychological basis of reasoning modes

Cognitive psychological research (in connection with cross-cultural evidence and on its own) is interested in how reasoning, particularly syllogistic reasoning, is represented in the mind, that is, in what is the psychological nature of inference. A major question is whether formal logical reasoning is represented in the mind as a special component, or not.

5.1. Johnson-Laird's "reasoning without logic"

Johnson-Laird since his early publications (Wason and Johnson-Laird 1972; Johnson-Laird 1983, 1986; Johnson-Laird and Byrne 1991) has addressed the problem of what he calls "inferential competence" and "inferential performance" (1986: 13). He denies the existence of "mental logic", that is, of mental representations of inference-rule schemata reflecting logical formulae in the brain. Instead he proposes an alternative theory – "theory of mental models" – of

deductive reasoning based on a “semantic principle of validity”. He claims that a psychologically plausible hypothesis is “reasoning without logic”, when solving syllogisms is based not on the use of logical rules but only on the content and truth of the premises.He suggests that reasoning without logic includes three steps:
a. interpretation of the premises by constructing a model which is based on truth conditions [that is on creation of a model which incorporates the information in the premises in a plausible way – I.D.],
b. formulation on its grounds of a semantically relevant conclusion, and
c. search for an alternative model which can prove the conclusion false.

If there is no alternative model which disqualifies the truth of the original conclusion, this conclusion is correct and can be accepted; if there is an alternative model, we proceed with selecting the most adequate model.

5.2. Deductive or inductive reasoning?
Another important aspect of the discussion about modes of reasoning in natural language concerns the question whether such reasoning is carried out in an inductive or in a deductive way. Moore (1986) claims the absolute priority of inductive over deductive reasoning, because deductive reasoning involves only the form of the argument, whereas inductive reasoning does not separate form from content, and content is dominant. From this position, he re-examines the conclusions of cross-cultural research (Luria, Scribner & Cole, etc.) He argues that “inability” of non-schooled villagers to deal with syllogisms is only apparent: they simply refuse to restrict inference to form only, and go with content, that is with their knowledge of the world. So, when they say that they cannot answer a question posed by a syllogism, this refusal implies a valid conditional argument (Moore 1986, 57): (7) If I could tell, I would have seen. I did not see. Therefore, I could not tell.

With the scheme: If p, then q. Not-q. Therefore, not-p. So, though the informant does not give an answer for the syllogism, it is due to his refusal to play logical games, a refusal which in itself gives no evidence for Luria’s claim that the individual cannot think deductively. Since there is no formal technique for description of inductive reasoning, it only looks that it has no rules. But such rules of inference exist; they include checking the content of a syllogism through worldly experience and [due to their cultural conventions of “politeness”-I.D.] not discussing issues outside their competence. This conclusion is very similar to

Johnson-Laird's position about creating a relevant model. In this case a model cannot be created because of the absence of reliable information.
In contrast to this inductive approach, Wilson and Sperber (1986) advocate the dominance of the deductive resolution of inference and relevance. They regard deductive inference by formal schemata as crucial for working with certain types of information, namely when the amount of explicitly presented information is deliberately reduced in communication. This position is compatible with the assumption that the deductive form of reasoning is not only part of mental representation, but is a dominant strategy in certain types of tasks.
So cognitive psychology, recognizing the existence of two modes of reasoning, still does not give a uniform answer on the question of "heterogeneity of thought". Neurological experiments, however, help to shed light on this problem.

6. Neurological research: brain hemispheres and mode preferences

The abilities of literate adults to use both reasoning patterns were tested in unique experiments in the Sechenov Institute of Evolutionary Physiology, St. Petersburg, Russian Academy of Sciences, by Professor V.L. Deglin, a distinguished scholar in the area of functional differences of the hemispheres of the brain, and author of numerous books devoted to different aspects of the brain's functions. This research was started by his supervisor, colleague and co-author, Professor L.Y. Balonov.
The experiments on syllogism-solving were part of a larger program of investigation of the contributions of the hemispheres to language production. The goal of the experiments presented here was to discover the contribution of the left and right hemispheres to solving syllogisms, by testing subjects' performance when either their left or right brain is temporarily not functioning because of transitory suppression (Chernigovskaja and Deglin 1990, Deglin 1995). The group included 14 right-handed individuals of both sexes, all with secondary and some with university education. Each person was tested three times: before electroshocks (control investigation), after right hemisphere suppression, and after left hemisphere suppression. The study tested solving of two types of syllogisms (including motivation for the reply):
a. those with true premises (with both familiar and unfamiliar content – experiment 1), and
b. syllogisms with false premises (experiment 2).

6.1. Experiment 1: solving true syllogisms

The types of syllogisms are presented in Table 1, and the types of responses in Table 2.

Table 1. Types of syllogisms used in Experiment 1

Major premise	Minor premise	Question
1. There are fish in all the rivers where people put nets	People put nets on the Neva River	Are there fish in the Neva River, or not?
2. Every state has a flag	Zambia is a state	Has Zambia a flag, or not?
3. Tanya and Olya always drink tea together	Tanya drinks tea at 3 p.m.	Does Olya drink tea at 3 p.m., or not?
4. In all the squares the sides are equal	The girl has drawn a square on the blackboard	Are the sides of this square equal, or not?
	The kangaroo is a mammal	
5. All mammals suckle their babies with milk		Does the kangaroo suckle its babies with milk, or not?

Table 2. Typical answers in Experiment 1

Left active (right suppressed)	Right active (left suppressed)
1. Since it is said here that in all the rivers where people put nets are fish and the Neva is in river, and people put nets on it, so there are.	Of course there are, but inedible, they cannot be edible, there is much machine oil. Smell should be.
2. Each state has a flag, so Zambia also has one.	Who knows it, this Zambia? How can I know whether it has a flag or not?
3. Since it is said that they drink tea together, then they also drink it now, at 3 p.m.	I don't know either Tanya, or Olya. Who knows about them, if they drink tea or not?
4. It is a square, so its sides are equal. She has drawn a square, the sides are equal.	I do not know any girl. Who knows about her, what she has drawn?
5. It is written on the card that mammals nurtal their babies with milk, and the kangaroo, it is written, is a mammal, so it suckles.	Suckles, probably, I have heard that they have a bag, and the baby sits there.

In the control group, subjects gave predominantly theoretical answers (12 of 14), which could be expected, since all the subjects were educated within the culture in which syllogisms exist. Only two subjects gave empirical responses (in accordance with their experiences and beliefs) to some syllogisms, like the following in response to N.1: ” everybody knows that there is smelt in the Neva”, or the following in response to N.3: ” no, they do not drink, one drinks tea in the morning”. Empirical responses were extremely rare in the control group.

With right hemisphere suppression (left active) there was an even more pronounced tendency for usage of a theoretical mode: though the same number of subjects as in the control group (12 of 14) used the theoretical mode, all the tasks were solved more
readily, without hesitation, and with much more assurance than in the control investigations. In justifying their answers, the subjects referred spontaneously to the contents of the premises.

With left hemisphere suppression (right active) there was a strong difference from the previous cases. The number of empirical answers dramatically increased: 11 subjects of 14 used them. Some subjects even gave only empirical answers without using theoretical answers at all. In comparison with the control group, where only some syllogisms, usually those with strongly familiar or strongly unfamiliar content (e.g. 1, Table 1), were given empirical answers, here all syllogisms independently of the type of content (familiar-unfamiliar) were given empirical answers. However there was some difference in the statistical distribution of responses to syllogisms with familiar and unfamiliar content: in syllogisms with unfamiliar content the number of empirical answers was substantially lower. The subjects’ behaviour in using the modes was also different: empirical answers were given quickly and with assurance, whereas theoretical answers were given with difficulty and hesitations.

Experiment 1 demonstrated that one and the same person solves one and the same task differently in different states. The type of answer depends mainly on which hemisphere is active, and to some extent on the familiarity of the content of premises. The experiment showed "that within our culture, under usual conditions the "right-hemisphere" mode of thought [empirical mode – I.D.] is not drawn to syllogism solving" (Deglin 1995: 23-24).

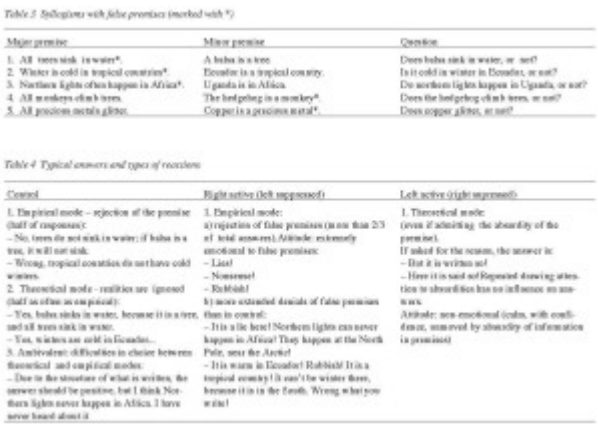

*Table 3. Syllogisms with false premises (marked with *)*

Major premise	Minor premise	Question
1. All trees sink in water*.	A balsa is a tree.	Does balsa sink in water, or not?
2. Winter is cold in tropical countries*.	Ecuador is a tropical country.	Is it cold in winter in Ecuador, or not?
3. Northern lights often happen in Africa*.	Uganda is in Africa.	Do northern lights happen in Uganda, or not?
4. All monkeys climb trees.	The hedgehog is a monkey*.	Does the hedgehog climb trees, or not?
5. All precious metals glitter.	Copper is a precious metal*.	Does copper glitter, or not?

Table 4. Typical answers and types of reactions

Control	Right active (left suppressed)	Left active (right suppressed)
1. Empirical mode – rejection of the premise (half of responses): – No, trees do not sink in water; if balsa is a tree, it will not sink. – Wrong, tropical countries do not have cold winters. 2. Theoretical mode - realities are ignored (half as often as empirical): – Yes, balsa sinks in water, because it is a tree, and all trees sink in water. – Yes, winters are cold in Ecuador... 3. Ambivalent: difficulties in choice between theoretical and empirical modes: – Due to the structure of what is written, the answer should be positive, but I think Northern lights never happen in Africa. I have never heard about it.	1. Empirical mode: a) rejection of false premises (in no less than 2/3 of total answers). Attitude: extremely emotional to false premises: – Liar! – Nonsense! – Rubbish! b) more extended denials of false premises than in control: – It is a lie here! Northern lights can never happen in Africa! They happen at the North Pole, near the Arctic! – It is warm in Ecuador! Rubbish! It is a tropical country! It can't be winter there, because it is in the South. Wrong, what you write!	1. Theoretical mode: (even if admitting the absurdity of the premise). If asked for the reason, the answer is: – But it is written so! – Here it is said so! Repeated drawing attention to absurdities has no influence on answers. Attitude: non-emotional (calm, with confidence, unmoved by absurdity of information in premises)

6.2. Experiment 2: solving syllogisms with false premises

The types of syllogisms for this experiment are presented in Table 3 and the types of responses and typical reactions in Table 4. The control group gave three types of responses. Predominantly (2/3 of answers) empirical responses were used – rejection of the false premise or refusal to solve the syllogism. But there were also theoretical answers where irrelevance of the premises's content to reality was ignored: "Yes, balsa sinks in water, because balsa is a tree and all trees sink in water". In some case answers were ambivalent: the subjects were hesitant which of the strategies to use – the ftheoretical one, following the rules of syllogism but ignoring the false premise, or an empirical one, pursuing the truth: "Must I answer so as it is written here? Then the hedgehog climbs trees. But it does not climb. It is not a monkey."

With left hemisphere suppression there was very strong rejection of false premises (90% of answers): they refuted false premises with conviction with a strong emotional reaction, extreme indignation, and much more extended denials (see Table 4).

With suppression of the right hemisphere, there was a dramatic change: the number of theoretical answers more than doubled, and the number of empirical answeres strongly decreased, with some individuals not using them at all. The subjects who followed theoretical answers did not pay any attention to the falsehood of premises (relying instead on the authority of what is "said' or "written"), and proceeded to work with the information given to them. As a result there were absurd conclusions, derived in accordance with correct rules of formal logic. The emotional attitude radically changed – the subjects did their task calmly, with confidence, neglecting the absurdity of the premises.

So these neurological experiments demonstrated that the activated right hemisphere utilizes predominantly the empirical mode, whereas the activated left hemisphere utilizes predominantly the theoretical mode. Thus both mechanisms of reasoning are present in the brain simultaneously, both of them can be used, but each of them is controlled by a different hemisphere. The choice of strategy depends on the content of the issues discussed: issues with familiar content referring to everyday activities are discussed in the empirical mode, whereas issues with unfamiliar content are solved in a theoretical mode. These results explain the fact mentioned in much cross-cultural research that often educated subjects use both strategies. And these results give counterevidence to Johnson-Laird's claim that formal reasoning is not represented in the mind.

The results of the neurological experiments are congruent with the peculiarities of functioning of the hemispheres: the right hemisphere operates cognitively with unified configurations (in this case with familiar scripts), whereas the left one processes discrete items (Witelson 1987) – in this case with the rules of formal deduction. This can raise a question whether the syllogism constitutes a script with a content (as was assumed in the discourse theory of reasoning) or is only a system of formal rules, a "syntactic script" never tied to a definite content but only to a definite form. In my opinion, the latter understanding of the syllogism is much more plausible and is congruent with the linguistic functions of the hemispheres. Linguistically the right hemisphere is responsible for (among other things) the referential and semantic correctness of words, and the left hemisphere for their syntactic organization (Balonov, Deglin, Dolinina 1983).**[ix]** In the case of reasoning patterns, the right hemisphere appears to control the quality of information (e.g. the truthfulness of premises, testing them against the realities of the world and/or personal knowledge/experience), whereas the left hemisphere is responsible for the correctness of purely operational mechanisms (formal correctness of inferences).

7. Conclusion

Two reasoning patterns can be used in solving syllogisms: an empirical (prelogical, traditional) one and a theoretical (logical, formal) one. The first employs information from life experience, knowledge of realities, the second only the information contained in the syllogism.

Cross-cultural investigators (Lévy-Bruhl, Luria, Cole, Scribner, etc.) demonstrated that the theoretical mode is not available to individuals in traditional societies,

who employ only the empirical mode; the theoretical mode becomes available to them after acquisition of minimal literacy and Western-type schooling. This discovery contradicts Piaget's claim that the theoretical mode develops ontogenetically as an obligatory stage of cognitive development. Various explanations of the failure of adults in traditional societies to develop the formal way of reasoning (which they should, according to Piaget) were proposed. Scribner claimed that oral traditional cultures do not have a syllogism genre, and so make use only of the genres which are available to them; when they learn this genre they can work with it. Specialists in literacy (Ong, Olson) claimed that literacy alone is sufficient for formal thinking, but this consideration was not supported by Scribner and Cole, who investigated literate traditional cultures (Vai) with authentic literacy, but still without formal reasoning. So they claimed that Western-type schooling (of which literacy is only a part) is crucial for formal reasoning. Thus, contrary to Piaget's ontogenetic explanation of sources of formal reasoning, scholars (Tulviste) explained it as a function of sociocultural demands (though acquired, as Piaget claimed only after a certain age).

Since literate schooled individuals possess both modes of reasoning, the question arises which of the modes is normally used – both (in which case there arises the issue of "heterogeneity of thought"), predominantly the theoretical one (as more efficient and compact), or predominantly the empirical one (as based on everyday information). Some cognitive psychologists (e.g. Johnson-Laird and Moore) claim that the traditional, semantic way of reasoning is responsible for reasoning processes and is represented in the mind, the formal being only a "performance" strategy. Others (Wilson and Sperber) stress the priority of formal reasoning. Deglin's neurological experiments on functional differentiation of right and left hemispheres demonstrated that both strategies are present in the brain: the right hemisphere uses the empirical mode, whereas the left one uses the theoretical mode.

NOTES

i. Later researchers argued that this stage emerges at a much younger age.

ii. Later this position was strongly supported by Lévi-Strauss (1962).

iii. Lévy-Bruhl's position was rejected by many psychologists, anthropologists and linguists of that time (among them Boas) who took it as a statement of the inferiority of 'primitive' cultures, and who argued that the intellectual apparatus of people in primitive cultures was absolutely identical to that of people in more

advanced cultures, because the cognitive and linguistic abilities of any culture and of any language are equal.

iv. Luria's research was based on Vygotsky's theoretical position that consciousness is not given in advance, but is shaped by activity and is a product of social history.

v. Although Luria did his research in the 1930s, his monograph was not published in the original Russian edition until 1974.

vi. Test of memory and retrieval of the information.

vii. They were carried out in Africa in Senegal, among Wolof, in Liberia among Kpelle and among Kpelle and Vai, and also in Mexico among Mayan- and Spanish-speaking villagers, with results very similar to Luria's and to each other.

viii. Luria's own explanations were only partially accepted. The grounds for criticism differed. For example, Cole in his foreword to the English translation of Luria's monograph (Luria 1976: xv) comments that Luria, adopting the Piagetian developmental framework, does not differentiate between the performance of individuals in different cultures and the performance of younger and older children within the same culture.

ix. Under the influence of Chomsky's syntactically based approach to language, North American researchers generally ascribe all linguistic functions to the left hemisphere.

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ISSA Proceedings 1998 – Burden Of Proof: A Negociable Argumentative 'Chore'

The allocation of burden of proof is a very classical argumentative issue. This paper does not propose general reflections on the principles which rule this allocation, but rather tries to show how, when engaged in face-to-face argumentation, speakers themselves deal with this question.

I will first evoque briefly how the question of the burden of proof is treated within

the frame of judicial argumentation as well as ordinary argumentation. I will then indicate how it can be articulated with a global description of a rhetorico-argumentative situation. Finally I will show, through a case study, how the allocation of burden of proof is negotiated within a specific polemic: the media debate about parasciences (astrology, parapsychology, ufology, etc.).

1. The burden of proof allocation rules

The general principle which governs the allocation of burden of proof in ordinary argument is that argumentative scaffolding falls to the speaker who challenges the doxa, while his opponent enjoys the weight of what is supposedly admitted.

Thus, if two speakers disagree, one claiming that 2 + 2 = 5 whereas the other assumes that 2 + 2 = 4, it falls to the first one to argue his claim, not to the second one. Moreover, the one who promotes an unlikely claim must prove the validity of this claim, and should not ask his adversary to prove it to be false; such an attitude would lead to an ad ignorantiam fallacy.

The first consequence entailed by this general burden of proof allocation rule is that it is governed by a principle of inertia: since presumptions play in favour of what exists, only change requires to be justified.

The second consequence of this rule is that the burden of proof allocation is setting-dependent, since what is considered as doxastic on a given matter may vary with the audience.

The general allocation rule may also be associated with additional sub-rules which condition its application within some specific settings. In particular, within the judicial area, the burden of proof is tightly linked to the presumption of innocence: the prosecutor assumes the burden of proof, and any reasonable doubt must be in favour of the prosecuted. In this specific setting, using the adversary's failure to prove a proposition p (the guilt of X) as an argument in favour of non-p (the innocence of X) is not considered as fallacious.

Perelman insists on the fact that the allocation of burden of proof within the legal area also plays in favour of inertia: "il est conçu de manière à ratifier, jusqu'à plus ample informé, les faits tels qu'ils sont".**[i]**

2. Integration of the Burden of Proof within a global model of argumentation

Some authors, among whom Plantin, attach a central role to burden of proof in the definition of a rhetorico-argumentative situation. Thus, for Plantin (1993, 1996), the importance of burden of proof is related to the fundamentally asymmmetrical character of many rhetorical situations.

A rhetorical situation is defined by the emergence of a "rhetorical question"**[ii]** which brings two speakers into conflict. The relationship between those speakers and the question to be discussed is more often not symmetrical, contrary to what is suggested by the alternative "for / against" which often typifies such situations. One speaker actually defends a claim close to *doxa*, whereas the other brings in a new thesis which questions this doxastic claim. The allocation of burden of proof is linked to presumptions, and to the determination, for a given rhetorical question, of what may be considered as "normal", "admitted", "doxastic", as well as what challenges the doxa.
This point is crucial; it constitutes an important stake of the argumentation, inasmuch as the position of the one who assumes the burden of proof is somehow weakened: as it is put under discussion, it is not unquestionable anymore.
It is quite paradoxical for argument, which aims at supporting a claim with premises, but which, doing so, puts its fragility in the foreground. The very fact of scaffolding a claim with arguments makes it questionable. Thus it is in the interest of each speaker in a debate to shift the burden of proof onto his adversary, and to enjoy the weight of presumption.
One should not understand this description of a rhetorical situation as implying that the allocation of burden of proof has to be dealt with as a precondition of the argumentative debate itself, as a point to be settled a priori, once and for all, valid for all the following discussion.

Such a conception of burden of proof would pose many problems.
– Deciding what, out of context, stands for doxa about a given matter is sometimes far from obvious. It is hardly questionable in the case of claims such as "2 + 2 = 5", which clearly challenge the arithmetical doxa. But what is the doxastic answer to the following question: "Is woman equal to man?" It becomes quickly evident that the answer will vary with the audience before which the discussion takes place. Amongst "good thinking people", the doxa will very probably come close to the affirmative; but elsewhere …
– In a debate, the rhetorical question structuring the argumentative exchanges tends to split into many rhetorical sub-questions, each of which may require a specific reflection about burden of proof.
– Even when identifying the doxastic position is possible, it is not necessarily relevant when one is concerned with the very dynamics of the argumentative face-to-face; establishing once and for all to whom the doxa belongs may prevent the analyst from observing that each discussant tries to appropriate it by means

of specific discursive devices.

Finally, the analysis of argumentative discussions shows that the allocation of burden of proof is not given prior to the interaction, but constitutes in itself one of the crucial issues at stake in the discussion. It is tightly negotiated by the interlocutors, each of them trying to ensure the most comfortable argumentative position – namely, the doxastic one.
The following case study illustrates what such negotiations are like, and what kind of rhetorical and argumentative devices they mobilize in a specific controversy: the media debate about parasciences.

3. The burden of proof negotiation devices within the Debate about parasciences
Before the actual analysis, a few points seem to be necessary:
– By "media debate about parasciences", I mean mainly TV debates which were broadcast since 1989 on French TV, dealing with varied disciplines or phenomena such as astrology, parapsychology, ufology or alternative medecines. Henceforth "para pros" will indicate parasciences' supporters, and "para cons" will stand for parasciences' opponents.
– Those debates constitute quite violent verbal exchanges, where argument takes place in a very polemic mode. It does not imply that argument always resembles that.
– it only is a specific case of argumentative discourse, and does not exclude that a pacified and constructive argument would be possible on the same matter. One might also assume that within more friendly discussions, the observations would be quite different. In particular, discussants would be less inclined to avoid the burden of proof and would probably take it on with less reluctance.
– The debate about parasciences constitutes a rhetorical situation where, at the start, the doxa seems to be rather close to the rationalist position. According to Blackburn (1992 : 418), the burden of proof falls to para pros because very often, the debate about parasciences is about determining whether paranormal phenomena do exist or not. Such a discussion is necessarily asymmetrical, the proof of the non-existence of something being almost impossible to establish, whereas finding out the criteria enabling to settle its reality is a perfectly attainable aim. This general principle is probably relevant in the case of a TV debate, where the audience is highly heterogeneous; but it would probably be defeated towards an audience consisting mainly of astrologers.

Even if a doxastic position within this specific debate may be identified, one

should keep in mind that:
– This does not imply that any rhetorical situation presents such an asymmetry *from the start*. One could imagine a rhetorical question which would concern such a novel problem that any answer would be original; the "doxastic" position should then be rhetorically constructed as such, rather than given.
– The a priori asymmetry does not prevent the burden of proof from being negotiated throughout the discussion.

3.1. Refusal of the burden of proof by parasciences' supporters: "rhetoric of acquired assent"
Since the argumentative discourse assuming the burden of proof might be weakened, the para pros try to shift the burden of proof onto their adversaries, and to present their own claims as generally accepted. For this purpose, they use what could be called a "rhetoric of acquired assent".
It consists mainly in mentioning technical works demonstrating the existence of paranormal phenomena, so as to make them appear unquestionable and widely admitted.
It is illustrated in example 1:
(1)
Telepathy – that is, transmission of desires or pictures without using the five senses – is henceforth a well attested fact, already established at the beginning of the century by works such as Tischner's "Télépathie et clairvoyance" (cited in Jean-Claude Becker, *Problèmes politiques et sociaux* 450-451, 1982, p.43).**[iii]** It's also the case in example 2:
(2)
Telepathy is a fact, proved by experiments (experimental thought transmission), and by observation (spontaneous cases) (Yvonne Castellan, *La Parapsychologie*, Paris: P.U.F., 1985, p. 37). This strategy consists in presenting as admitted what is precisely contested by the adversary; thus it might be a way of begging the question. It often opposes the situation in France (which would be comparable to Prehistory) to the American or, a few years ago, the Russian research situation. In Example 3, doctor Toffaloni defends osteopathy in the following way:
(3)
Dr T: People speak of an untested, non recognized profession or technique; "untested" isn't true as far as osteopathy is concerned because everything has been written, everything has been tested seriously in the United States – well, you know the way it is, in France, people have blinkers (TV, « *Le Glaive et la balance*

», M6, 1991).

Those claims very often follow a regular pattern:
telepathy
psychokinesis
premonition
…
is widely
henceforth
well
… attested
proved
established
… by works such as Tischner's in the United States
…
which amounts to: /Name of a parascience/is/adverb indicating intensity or temporal break//passed participle pointing out that the parascience is admitted//authority attesting the validity of the parascience/

This pattern may remind one of some discursive devices from popularized science where the journalist willing to legitimate his claims mentions explicitly the background where they first were developped: an authoritative environment in which facts are "attested", "established", "proved by experiment" in "high-performance laboratories".

The rhetoric of acquired assent suggests that if so many conclusive experiments do exist, the burden of proof then falls to the para cons. This strategy is mobilized by the parapsychologist Yves Lignon in example 4:
(4)
YL: But anyway Mr Cuniot, this is a false debate; we're not here to talk about Yves Lignon, but about parapsychology and about experiments signed "Yves Lignon", which are published in scientific papers. So I am asking you a question: do you challenge those experiments, yes or no? And if you do, where, how and why? In other words, since I claim that an experimental file showing the reality of the parapsychological phenomenon does exist, tell me where I went wrong (TV, « *Duel sur la 5* », 15/04/1988, la 5).
The rhetoric of acquired assent is often associated with two kinds of devices aimed at making facts more credible. The first one rests on the locus of quantity,

the second one, on the locus of quality**[iv]**. The first device consists in making the facts appear plain, banal. Since the more extraordinary a phenomenon is, the more convincing the proof of its reality has to be, many discursive devices are used by para pros in order to lessen the unusualness of paranormal phenomena.
The most simple way of reaching this aim is pointing out the great number of experiments in this area. Thus the parapsychologist Yves Lignon claims that "one can find all over the world hundreds of thousands of successful experiments". Presenting the reality of the phenomena as broadly admitted empowers Yves Lignon to shift the burden of proof onto his adversary.

A variant of this strategy consists in suggesting that the phenomenon belongs to a well established, systematically described area of knowledge. Example 5 describes the way a famous French parapsychologist works:
(5)
Experiments in telepathy – which are the basic requirements of the job – are nothing to him but routine experiments (« Les nouveaux miracles de la parapsychologie », *Nouveau l'Inconnu* 158, août 1989). One may also present the antiquity of a theory as an argument establishing its validity, since it has been tested through ages by many people. This argument is used by Boris, a medium, who has just stigmatized the european research in parapsychology, which, according to him, is left far behind by american research; he adds:
(6)
B: So ok, people blame us, but I wish everybody would ask himself a question; besides, we do exist since the beginning of time, wizards have existed before lawyers and physicians, before scientists, they still exist; they now have a new label, they are called "parapsychologists". So, with all you can read at present against parapsychology, how can you explain to me why people come back to see us? Ok, just explain that to me (TV, « *Ciel Mon Mardi* », 27/11/1990, TF1). This way of mentioning the antiquity of a theory or practice in order to establish its validity is itself a very ancient (therefore very effective?) device; it was already used by Cicero in *De la divination*:
(7)
Let us make fun of haruspices! Let us pretend they are faithless and lacking authority! Their science, attested by such a wise man, by events and by reality, let us despise it! Let us despise also Babylon and those who, observing the heavenly signs from the Caucasus, follow, owing to their reckonings, the moves of the stars! Let us tax them with stupidity, with treachery or effrontery, those whose

writings contain, as they themselves assume, a 470 000 years old tradition! Let us consider they are lying and care little about the way the forthcoming generations will judge them! So be it! Barbarians are faithless and deceitful. But is greek history also deceitful? […] Delphi's oracle would never have met such a success and such a fame nor would it have received such rich presents from all countries and from all kings, if the truth of his prophecy had not been proved through the ages (Cicéron, *De la divination*, Paris: Les belles Lettres, 1992).

Contrary to focussing on the great quantity of experiments, other strategies aiming at making the paranormal facts more credible are based on the locus of quality. The first one points out on the contrary to the scarcity of a phenomenon in order to make it appear more plausible. Acknowledging only one phenomenon as true among a great number of candidates is seen as an argument in favour of its reliability:
(8)
Rémy Chauvin: in all my long life I had the opportunity to meet three mediums, one being a well known scientist – three, no more, in forty-two years (TV, « *Star à la barre* », 09/05/1989, France 2). In a similar way, one may claim that the more humble a phenomenon, the more reliable it is:
(9)
Bernard Martino: First conclusion: I would say, as far as I'm concerned, that the bigger it is, the less credible it is. (…) That's what I would say to people who are inclined to believe too easily. (…) I've heard crazy things, I've heard people saying they were able to make a van levitate! No kidding! (TV, « *Ciel Mon Mardi* », 27/11/1990, TF1).
Rejecting some paranormal phenomena as poorly reliable enables a speaker to build an objective, critical ethos and to increase in proportion the credit attached to the scarce so-called positive paranormal facts.

3.2. Meta-argumentative reactions

The use of the rhetoric of acquired assent by para pros gives rise to varied meta-argumentative reactions by their adversaries, who also reject the burden of proof, and denounce the attempts at reversing it.

3.2.1. Making the burden of proof allocation rule explicit

These reactions are often associated with the explicitation of the burden of proof allocation rule, as in example 10 (the author is a rationalist physicist):
(10)

As I said before, it falls to the proponent to bring the proof of what he says. (…) One must clearly claim that the non-impossibility of something presented as an argument in favour of this thing is a fallacy which is close to schizophrenic delirium (Henri Broch, *Le Paranormal*, Paris: Seuil, p.199).

Here the question of burden of proof is associated with the denunciation of an argumentum ad ignorantiam. Example 11 is an answer to a "Science et Vie" reader's mail, which reproached this magazine of popularized science with rejecting astrology without justification:
(11)
So would it fall to us to demonstrate the inanity of astrology? If we published the information that pigs fly when the moon is full, it would fall to us to prove it, and not to those who don't believe us. Besides, we've never heard of a single methodical work in astrology ("scientific" would be a word too strong for that kind of matter) which would show the influence either of signs or of planets (*Science & Vie* 892, 1992, p.10).

3.2.2. Discussion of the application of this rule
Still on the meta-argumentative level, a possible reaction to the mention of the burden of proof allocation rule consists in discussing the plausibility of a theory – this plausibility being crucial for deciding who has to prove. Thus the two physicists Targ and Puthoff did claim in 1977 that:
(12)
In our time of gravitational waves and quantum interconnections, the burden of proof, when the discussion is about excluding the very possibility of paranormal abilities, falls to sceptical people (Targ & Puthoff, cited in Alcock J., *Parapsychologie: Science ou magie?*, Paris : Albin Michel, 1989, p.178). As is shown by example 12, the very plausibility judgment may vary according to the audience, and may itself be negotiated.

3.2.3. Proposition of burden of proof allocation alternative principles
Another meta-strategy may consist in proposing alternative burden of proof allocation rules. In example 13, Yves Galifret, a rationalist, refuses the burden of proof; the reaction of his adversary, the Magus Dessuart, is the following (JCB is the journalist running the debate):
(13)
JCB: So, professor Galifret, I suggest you open the intellectual duel. Please tell us what your position is on clairvoyance?

YG: Well, I'd rather… I don't have anything to prove; the burden of proof falls to the one who claims, doesn't it? I consider that the king is naked, I expect to be shown that the king is not naked.
JCB: Then, Magus Dessuart?
MD: So dear professor, I think it's exactly the reverse, because in the present case, we, mediums, are subjects, we are not scientists, and, having no technical information, we cannot demonstrate the mechanisms which rule that kind of phenomena. We're only subjects […] but how could we explain the facts? We are poorly equipped for that, we are not scientists (TV, « *Duel sur la Cinq* » du 22/04/1988, la 5).

The burden of proof allocation rule proposed by the Magus rests on competence: the burden of proof falls to the most competent speaker (whatever his position in the debate is). Example 14 is from a quite different frame: the controversy about heliocentrism. The position of the Church towards Galileo was that, as long as the contrary has not been established, one should not cast doubt upon the traditional interpretation of the Bible: the burden of proof then falls to Galileo. Galileo claims on the contrary that the falsity of copernicianism has to be established by the Church itself:

(14)
Before a physical claim is condemned [by the Church] one must show that it isn't rigorously proved, and this has to be done not by the ones who hold this claim to be true, but by the ones who consider it as false. It seems natural and very sensible because those who consider an argument as erroneous may put its flaws to the fore much more easily than those who hold it to be conclusive (*Galilée, naissance de la physique, Les Cahiers de Science et Vie* ("Les grandes controverses scientifiques, n_2), avril 1991). This alternative burden of proof allocation rule rests on psychological or cognitive considerations.

3.3. Other argumentative devices aiming at shifting the burden of proof
Beside the meta-argumentative level, one may meet two other devices aiming at shifting the burden of proof.

3.3.1. Argument ad ignorantiam
The first one is very classical : it consists in using an appeal to ignorance. In the debate about parasciences, the failure of the sceptics to demonstrate the falsity of the paranormal hypothesis is often considered as a proof for its validity. That's

the way one should understand the so frequent “why not” answer advanced by parasciences’ supporters when asked to justify their belief.

Very often, sceptics try to prove the inanity of a paranormal interpretation of a phenomenon by proposing a rational explanation for the same fact. Thus, para pros will try to show that those “rational” explanations cannot be accepted – and the criticism of the arguments of the adversary is seen as an argument in favour of the paranormal hypothesis.

In example 15, Pierre and Joël are two “UFO hunters”. They are in the moutains, and they are commenting on a round mark which was supposedly left by a Ufo. In order to support this explanation, they criticize rival rational explanations “they” proposed (“they” standing probably for “the government”, scientists or any non-believer).

(15)

Pierre: Then some people came to see a few years ago; they studied it; and at that time they told me maybe mushrooms produced those marks. In the old days they were called “witch circles”. So, mushrooms would have been responsible for those circles. […]

Joël: Even if one admits that mushrooms may make such a regular mark – why the hell wouldn’t they also make a square mark? It’s completely unlikely, because if you have a look at books about mushrooms, they don’t mention such a thing, never.

Pierre: You know, I think if one day they saw a UFO in the middle of a field, they would tell you “everything is ok”; then what is it? They would always find something to tell you.

Joël: The day before, you came here and there was no mark.

Pierre: Yes, absolutely, there was nothing, and the day after the mark was here. So they said some people had had a party and so on; but there would have been cigarette butts, cans, you know, the kind of rubbish you might find after a party – and there was nothing.

Joël: About three years ago, two guys – actually they were poaching frogs during the night – they saw a luminous phenomenon, a very strange one, fabulously luminous – they compared it with the lighting of a football stadium, so you can imagine how luminous it was. Well, some people managed to explain this observation by luminous mushrooms. So, if you can show me luminous mushrooms giving off light as bright as the lighting of a football stadium, I’d be glad to see that. And nobody questions it! And we have a great collection of such completely foolish explanations… (TV, « *Zone interdite* », M6, 21/09/1997).

Such argumentative strategies are often associated with additional interpretative hypotheses. In particular, the supposedly absurd rational explanations are presented as the indication that a plot is being organized in order to keep the Ufo landings secret (as well as paranormal phenomena in general). The existence of such a plot is of course itself an indication that paranormal phenomena do exist.

3.3.2. Alteration of the general discussion pattern

The last argumentative device used to shift the burden of proof onto the adversary consists in negotiating the general pattern of discussion. In the debate about parasciences, the discussion pattern usually admitted is the following:

– first, establishing the reality of the phenomena;
– second, trying to explain these phenomena;
– third, searching for potential applications.

The rhetoric of acquired assent aims at moving from the facts (which are presented as widely admitted) to their explanation; it appears in example 13 above. It is often associated with a new task allocation: para pros establish (and even provoke) the phenomena, scientists use their technical skills to explain them. Since scientists often refuse to concede the first step to their adversary, they refuse to assume the second step; thus the allocation of burden of proof often gives rise to the negotiation of the discussion pattern, as in example 16:

(16)

YG: "So", says Fontenelle, "is all this well attested? Let us make sure of the fact before trying to understand the cause. This method may seem quite slow to the many people who run naturally to the cause and pass over the truth of the fact. But let's avoid the ridiculousness of having found the cause of what is not. In other words, before explaining something you should make sure that this thing does exist". So I would say there is nothing to be demonstrated insofar as this social phenomenon [clairvoyance] rests on no objective scientific basis (TV, « *Duel sur la Cinq* » du 22/04/1988, la 5).

Thus the pattern of discussion also is an important stake of the debate; trying to move to the explanation or to the potential applications before having conclusively established the facts constitutes an attempt at escaping the chore of burden of proof.

Conclusion

The preceding examples (which may not exhaustively list the argumentative skills

aiming at shifting the burden of proof) may suggest that the burden of proof allocation always gives rise to negotiations; actually this is not always the case:
– in some institutional or strict rule-laden situations, the burden of proof may be allocated once and for all, and may be considered as unquestionable (it is the case to some extent in legal discussions, as mentioned previously);
– in situations with a low degree of polemicity, where discussants are not directly confronted with a counter-argument, the burden of proof is often assumed without any reluctance, as Wooffitt (1992) showed;
– in a media setting, discussants may also find some advantages in assuming the burden of proof. Accepting it often enables them to speak first and, while having the floor, to frame favourably the argumentative discussion to come: the asset of speaking first compensates for the handicap of assuming the burden of proof.

There is no doubt that the burden of proof is a crucial component of any argumentative situation: it has to be assumed by somebody, even if it weakens the discourse of the discussant who assumes it, and, in that sense, it is an unavoidable argumentative chore. But one should strongly emphasize that speakers may always use many argumentative skills in order to shift this chore onto their adversaries. So it is a very negotiable chore, and it is constructed by, rather than given previous to, the face-to-face argumentation.

NOTES

i. "[Burden of proof] is conceived in order to confirm the state of the issue, until there is evidence to the contrary" (Perelman 1988, 727, our translation).
ii. Following Plantin (1993, 1996), a rhetorical question is not a question wich requires no answer, but a question which structures an argumentative discussion.
iii. All the examples were initially in French ; the translation is ours.
iv. As defined by Perelman & Olbrechts-Tyteca 1988 : 115-129.

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ISSA Proceedings 1998 – The Use Of Metaphor In Scientific Argument: The Case Of Edward Clarke's Sex In Education

Contemporary research on metaphor has demonstrated with some emphasis that metaphor plays a significant role in science. Indeed, the discovery and description of the various functions performed by metaphor in scientific discourse has become a major research focus in metaphor scholarship (see Ortony, 1993). This focus was initiated in 1955, when philosopher Max Black (1955) argued in a landmark essay that metaphor constitutes "a distinctive intellectual operation" (79). By attributing cognitive content to metaphor, Black promoted the construct from a mere stylistic trope to a central figure in the process of scientific discovery. Subsequent research, including inquiry into the process of scientific modeling conducted by Black (1962) himself, established a virtual consensus regarding the necessity of metaphoric thought and description in science. Acknowledgment of this necessity can be found not only in the work of "metaphor-friendly" philosophers of science such as Thomas Kuhn (1993), but also in the work of logical positivists such as Ernest Nagel (1961).

This should not be taken to say that metaphor has been roundly embraced as a positive influence in science. Even Black (1955) was quick to point out that there is "no doubt metaphors are dangerous" (79). While metaphor may be indispensable in the process of theorizing, it can also mislead. The same heuristic function that enables metaphors to help us grasp new ideas can also serve to misdirect or limit our perceptions. In particular, there is an ever-present danger that metaphors will become reified or literalized. By this process, a metaphor,

construct, or model becomes for the researcher not just a representation of reality, but the reality itself (Black, 1962).

There is a second fashion by which metaphor poses a danger in science. Not only can metaphor mislead researchers by construing their perceptions, but it can also serve a powerful rhetorical function in the interpretation of scientific data and the application of those data to social contexts. Metaphor can serve as a bridge from scientific data to personal or political interests, and in the process, the data itself is reconstituted according to the metaphorical entailments. This risk pertains not so much to the good-faith misapprehension of reality as to the intentional, persuasive uses made of the results of scientific investigation. Metaphor is particularly vital in such uses given its peculiar efficacy as an ideological tool. Although the ideological function of metaphor has been explored in traditional analyses of rhetorical artifacts, far less attention has been paid to this function in the discourse of science. In this essay, I wish to characterize the rhetorical potential of metaphor in the interpretation and application of scientific data by way of a case study. My progress will be made up of an initial exploration of the ideological functions of metaphor, followed by an examination of these functions in the work of nineteenth-century Harvard physician Edward Clarke.

1. The ideological function of metaphor

Edwin Black (1970) writes that any discourse asserts a model of what the author would have his or her real audience become. This model is almost never characterized directly, but is implied by way of stylistic tokens. By the choice of language, the fashion in which the argument is clothed, an author implies an outlook. Style in this context serves as perspective, and, Black notes, this perspective matters inasmuch as "auditors look to the discourse they are attending for cues that tell them how they are to view the world, even beyond the expressed concerns, the overt propositional sense, of the discourse" (165). In all, stylistic cues link discourse to an ideology, a "network of interconnected convictions that functions in a man epistemically and that shapes his identity" (164).

Metaphor is particularly suited to conveying ideology or perspective due to its characteristic function of joining seamlessly dissimilar contexts. Modern scholarship on the construct (for an overview, see Johnson 1981, 3-47) allows that metaphor inspires original thought by animating elements or ideas from discrete domains. This thought results from a unique interaction of diverse associations in a process of comparison and negation. Language as a system is built on a vast

foundation or system of metaphors by which abstractions such as space, time, and movement are construed. The choice of particular types of metaphors conveys what Wayne Booth (1978) calls "a world" (61). This world is not presented as an invitation to join with a given perspective, but draws its audience in by way of the interpretive process: "To understand a metaphor is by its very nature to decide whether to join the metaphorist or reject him, and that is simultaneously to decide either to be shaped in the shape his metaphor requires or to resist" (63). This "decision" is seldom recognized as such; most often, auditors overlook the rhetorical dimensions of metaphor entirely in their interpretive processes, and assent by default to the perspective of the rhetor.

As a consequence, conventional metaphoric function – as contrasted with the function of novel, isolated metaphors – tends to take place without the awareness of auditors. This creates a significant rhetorical potential that may be of strategic advantage to participants in the discourse of science. However, while considerable scholarly attention has been devoted to charting the importance of metaphors in propagating scientific theory (e.g., Boyd 1993), and to demonstrating the ideological function of metaphors in sustaining research perspectives or paradigms (e.g., Brown 1986), less attention has been focused on the tactical uses of metaphor within particular scientific and quasi-scientific discourses. Questions of particular strategies of metaphoric conveyance have largely been left unanswered in the pursuit of larger issues of metaphor in science. It is my assumption in this essay that attention to such tactical issues is appropriate within the framework provided by existing research.

Accordingly, I am concerned with such questions as how, specifically, do metaphors serve as an inventional resource in the construal of scientific data? What are the commonplace uses of antagonism between science and poetics, and the theoretical antithesis between figuration and the language of empiricism, one would their uses of metaphor. Where in scientific discourse do metaphors most often appear, and where are they less in evidence? What levels of metaphoric function – word, sentence, subject, or discourse – are significant? In order to explore these questions, I turn to a case study in scientific discourse.

2. Edward Clarke's Sex in Education

Although largely absent from contemporary historical texts, the issue of women's access to traditionally male-dominated domains of higher education was an enormously popular concern in the United States during the latter half of the

nineteenth century, receiving attention comparable to the debate over slavery that preceded it. The inaugural edition of the *Woman's Journal* is a case in point: The *Journal* began publication in 1870 as the official organ of the American Woman Suffrage Association. However, the front page of the new periodical's first edition was dominated not by suffrage, but by the issue of co-education in American universities. According to one writer in the *Journal*, co-education was considered by many to be "the great problem of the age" (Woman's Place 1870: 266).

The problem was particularly newsworthy in 1870 inasmuch as it appeared to be on the verge of resolution. In the years since the Civil War, increasing numbers of colleges and universities opened their doors to women. Even the staunchest supporters of separate education of the sexes showed signs of compromise. Harvard's annual catalogue announced for the first time the names of women pupils in a post-graduate course, and the newly inaugurated president of the University admitted that the primary reasons for excluding women as full-time students related to the problem of common residence of the sexes rather than any categorical mandate. It seemed, in short, as if the "experiment of thirty-five years standing" had "long since passed the epoch of experiment," and that co-education stood at the very threshold of popular acceptance (Harvard 1870: 1).

However, over the course of the next three years, the evolving consensus underwent a profound rupture that suspended its development as a moral issue and redirected the slow accumulation of knowledge about women's education into a different field, that of medicine. This process of displacement and transformation was constituted rhetorically in scientific discourse. One work in particular, Harvard physician Edward Clarke's (1873) *Sex in Education, or, A Fair Chance for the Girls*, served as catalyst for this rupture in popular conceptions of co-education. Written for a popular audience, the book was nevertheless ostensibly a scientific work resulting from Clarke's extended clinical practice and his experience as a member of the Harvard oversight board.

First published in 1873, Clarke's book was comprised of five chapters, labeled as follows: (1). Introductory; (2). Chiefly Physiological; (3). Chiefly Clinical; (4). Co-Education; (5). The European Way. In it, Clarke admitted that women have the capacity to learn the same material as men, but argued that women lack the capacity to learn in the same manner as men: "Boys must study and work in a boy's way, and girls in a girl's way." Clarke's thesis rests on the notion that "the [human] system never does two things well at the same time" (18)" In this

instance, “two things” refer to thinking and developing a uterus. Should women persevere in their education, a host of calamities await them, including but not limited to the following: low spirits, lifelong painful menstruation, irregular menstruation, no menstruation, underdeveloped breasts and inability to breast feed, bearded masculinity, hysteria, anemia, St. Vitus’ Dance, dyspepsia, neuralgia, headaches, loss of mental power, sterility, insomnia, insanity, and death (22). In short, educating women in the same fashion as men results in overwhelming physical damage.

The solution outlined by Clarke is that women should study one third less than men, and not at all during menstruation. This realistically negates the possibility of coeducation, since such an approach would require either an incompatible combination or a compromise that would yield “an average result,” giving a fair chance “neither to a boy nor a girl.” According to Clarke, then, “the inherent difficulty in the experiment of special and appropriate coeducation is the difficulty of adjusting in the same institution the methods of instruction to the physiological needs of each sex” (128). Perhaps the most controversial work on the limits of women’s physiology ever written, Clarke’s text was enormously popular, undergoing twelve printings in its first year and seventeen all told.

Such distant outposts of higher education as the University of Michigan, a co-educational institution, reported that “everyone” was reading the book: over two hundred copies were sold there in a single day (Walsh 1977: 124). References to the work can be found in a variety of documents ranging from personal correspondence and diaries to deliberative public records. The case of a woman student of the period is illustrative: M. Carey Thomas recalled that she and her fellow female students were “haunted by the clanging chains of that gloomy little specter, Dr. Edward Clarke’s Sex in Education.” (quoted in Walsh 1977: 124).

Nor was the book’s effect limited to students. The degree to which the thesis was assimilated by the academy is demonstrated by a report of the Regents of the University of Wisconsin three years after the book was published: “Every physiologist is well aware that at stated times, nature makes a great demand upon the energies of early womanhood and that at these times great caution must be exercised lest injury be done…. Education is greatly to be desired, but it is better that the future matrons of the state should be without a University training than it should be produced at the fearful expense of ruined health; better that the future mothers of the state should be robust, hearty, healthy women, than that, by over study, they entail upon their descendants the germs of disease” (quoted in

Smith-Rosenberg & Rosenberg 1974: 341-2).

This should not be taken to imply that the book excited only positive response. A year after Clarke's publication, educator Anna C. Brackett (1874) wrote, "it is seldom that any book arouses so much criticism, and, withal, so much earnest opposition as this has provoked, and seldom the newspapers so generously open their columns to discussions so extended on the merits and demerits of any publication"; "The criticisms and the criticisms on criticisms would make already quite a volume" (368, 390).

In fact, the criticisms eventually filled at least four volumes, including Brackett's own, *The Education of American Girls*. Julia Ward Howe (1874), editor of a second volume*, Sex and Education: A Reply to Dr. E. H. Clarke's Sex in Education*, summed the thesis shared by most of the responses: "Dr. Clarke's discord exists not in nature, but in his own thought" (6). In addition to these volumes, the debate spawned any number of articles and monographs. Prominent educators and women's advocates, including Mary Bascom, Abby May, and Thomas Wentworth Higginson, responded to the issue with anecdotal evidence and observations of their own designed to counter Clarke's grim pronouncement. Dr. Mary Putnam Jacobi's essay "The Question of Rest for Women During Menstruation," winner of Harvard's Boylston Prize in 1876, was one of many scholarly attempts to gain the same end.

The historical significance of Clarke's text as flashpoint for this debate may be enough to warrant its examination; however, there is much else to recommend it to rhetorical analysis. Clarke was by no means the first physician to assert the importance of women's "special" physical nature. References to the overriding dominance of women's reproductive organs compared to all other bodily functions are common in the medical literature well before mid-century. Still, Clarke's project captured the public mind like none before it. Further, many of his most resolute opponents struggled to refute his claims. Feminist Caroline Dall wrote in her critique of *Sex in Education*: "I expected to find premises from which I should dissent, but, with the exception of that upon which the book is based [that higher education would destroy female health] I did not find any." (quoted in Rosenburg 1982: 13). That Clarke's critics should experience such difficulty in responding to what appears in retrospect to be an untenable position seems nothing less than remarkable.

3. A Confluence of Metaphors

As I hope to demonstrate, part of the effect of Clarke's (1873) work may be due to his extended and strategic use of metaphor, explicit comparisons in which one concept is likened to another or described in terms of another. There is no doubt that the text makes extensive use of these explicit metaphors. In illustration of the dictum that the "system never does two things well at the same time," it offers the analogy of one attempting to meditate on poetry and drive a saw simultaneously: "He may poetize fairly, and saw poorly; or he may saw fairly, and poetize poorly; or he may both saw and poetize indifferently" (40). The blood is compared to "the water flowing through the canals of Venice, that carries health and wealth to the portals of every house, and filth and disease from every doorway" (46). Education is like agriculture. Those who advocated coeducation ignored the differences among species: "Because a gardener has nursed an acorn till it grew into an oak, they would have him cradle a grape in the same soil and way, and make it a vine" (127-8).

In all, over seventy-five such explicit comparisons appear in the text. The metaphors deployed do not serve as reasoned support or formal proof; neither do they only function as ornamentation. Rather, they serve in a literal sense to animate particular relations among the terms of comparison, and in this manner effect a particular interpretation. I. A. Richards (1936) writes that "it is the peculiarity of meanings that they do so mind their company" (10). Metaphor achieves a semantic dynamism by way of tensions among meanings at various levels of interpretation. First, there is the tension among the constitutive terms of a particular metaphor. Consider, for example, the seemingly innocuous textual description of women's growth and development as a voyage: "the first few years that are necessary for the voyage from the first to the second period, and those from the second to the third, are justly called critical ones" (Clarke 1873: 34). "The first of these critical voyages is made during a girl's educational life, and extends over a very considerable portion of it" (35). Following Richards's description of the component parts of metaphor, we may say that "voyage" in this passage serves as a vehicle, a means for conveying an idea ancillary to the primary narrative. The tenor of the passage – the meaning provided by the combination of vehicle, "voyage" in this case, and the ostensive subject, female development – must be inferred by the reader. By a process of interinanimation, the possible meanings of each of these components are configured; by virtue of their proximity, certain shades of meaning are mobilized and others are constrained, yielding a combination unique to the particular context. In this case, I infer the salient characteristics of "voyage" to be risk, movement from one point

to another, change.

The application of these characteristics to female growth in a literal sense provides some insight: female growth is a risky process of change, a movement among stages of development. However, a deeper insight can be found by considering the telos smuggled into female development by way of this comparison. A voyage is undertaken for the sake of the destination; the "point" is to arrive, and this is the definitive character lent to the process of female development. We travel to get to some place. In the context of the metaphor, women grow to become fecund. The "point" to women's growth is becoming fertile, potential child-bearers. This metaphor lends women's existence a particular functional explanation – the reproductive capacity – and, by so doing, decenters other functions and explanations. Girls, in this light, are immature child-bearers; post-menopausal women are old, dysfunctional child-bearers.
The use of this and similar metaphors performs an especially effective rhetorical function. Metaphors instruct by combining and extending meanings with which we are already familiar in new and different ways. This collusion with accepted ideas dissipates the "newness" of metaphoric tenor and links it to the orthodox, which protects it and the larger case from attack (Ricoeur, 1975: 29). In the instance of the example at hand, the premise that women are essentially creatures of reproduction needed little protection in nineteenth-century American culture. Nevertheless, this meaning is smuggled into the "voyage" metaphor, secreted away in a process of overdetermination of meaning by the text. In a similar fashion, each explicit metaphor in the text exerts a limited or local influence over that portion of the narrative that it inhabits.

Not all metaphors deployed in the text have equal significance. In some cases, the metaphors used in the text are clearly isolated, and so less likely to elicit extended attention or interpretation by a reader. For example, on page 15, the passing textual reference to the "chains of matrimony" is unlikely to perform an especially significant rhetorical function. The reference is quite brief, the metaphoric form is subtle, and the images elicited have been so well and often used as to fail entirely to provoke associations. Rather, the juxtaposition has achieved the status of "dead" metaphor or cliché, and so may fail to perform any metaphoric function at all. In contrast, consider the extended comparison of education to agriculture that occurs on page 126: "The gardener may plant, if he choose, the lily and the rose, the oak and the vine, within the same enclosure; let

the same soil nourish them, the same air visit them, and the same sunshine warm and cheer them; still, he trains each of them with a separate art, warding from each its peculiar dangers, developing within each its peculiar powers, and teaching each to put forth to the utmost its divine and peculiar gifts of strength and beauty."

From this comparison, we might well take it that boys and girls are as dissimilar as different species of plants, overlooking the fact of the matter that they are of the same species, only different sexes. The extended attention lent to this comparison, its detail and vividness, combined with the newness of the elements in combination, results in a vivid, telling metaphor. These characteristics make it more likely that the metaphor will receive interpretive consideration and result in rhetorical effect. The reader is likely to be persuaded to consider boys and girls more different than he or she might otherwise be inclined to think.
A second level of interpretive tension is achieved by patterns of metaphoric reference. Through metaphoric repetition, a force of relations is rhetorically inscribed. Metaphors in which educators are compared to farmers, and boys and girls compared to widely dissimilar plant species occur three times in the text, and are among the most detailed and extended of all the comparisons found there. Several related metaphors, such as less-detailed references to educated women as "loaded grain before a storm," or the "fruits borne" by identical coeducation, extend and strengthen the relations that obtain in the extended garden metaphors, forming a web or complex of associations, and thus strengthening the rhetorical effect of the comparison. This pattern of references also entrenches the associations elicited, linking and securing them in a theme. Such a theme lends the strategy a certain discursive momentum that enables each successive reference to fit neatly into the growing complex of associations, facilitates assimilation, amplifies the effect, and reduces the likelihood of discord or rejection.

Clarke's text demonstrates a second pattern of metaphoric reference, this time in the object of repeated comparisons. The most frequent object of textual metaphors is the female reproductive function. A cluster of metaphors surrounds the process or reproduction generally, and the female reproductive organs in particular. In addition to the local effects on interpretation noted above, this pattern of metaphoric reference "overloads" particular concepts such as the reproductive function with metaphoric associations, and so reduces the ease of

singular interpretation. Moreover, this repeated metaphoric reference indicates to the reader that the function of reproduction is surrounded by a special mystery, an irresolvable complex of meanings, and aura of importance.

Repeated use of the same or similar vehicles in various metaphors is another type of pattern of rhetorical significance. Comparisons of the human body, and women's reproductive organs in particular, to machines and engines are especially common (Clarke 1873: 37, 38, 39, 83, 94, 131). This repeated comparison inspires a vision of humans as creatures of production, and women as producers of babies. Furthermore, simple characteristics of machines may also seem to apply to women: machines do not function autonomously, they have no feelings, they break down, but may in some cases be repaired. Machines, and by extension, women's bodies, are objects, distinct from the minds that direct them. They are also the engines of society, mechanisms of technology and advancement. Machines, particularly in the rampant industrialization of the late nineteenth century, represented progress and the future of the nation.

Women's reproductive organs are also frequently referred to as "the cradle of the race," so frequently, in fact, that what might otherwise be considered a passing cliché becomes an embedded reference, a deep-seated association of women and the responsibility of continuing the complex of American cultural and genetic elements. This association downplays alternative visions of women, such as that of women as independent agents, actors whose primary responsibility is to themselves or their immediate families. Women in this light are objects whose sole function is to nurture and protect the progeny of the race.

The pattern described by the location and frequency of metaphors in the unfolding narrative is also instructive. The introductory chapter contained ten metaphors, at a frequency of .53 per page. The second chapter, in which physiological issues were dealt with, contained 30 metaphors at a frequency of 1.03 per page. The third chapter, "chiefly clinical," relied on 20 metaphors at a frequency of .36 per page. The fourth chapter, "coeducation," contained 14 metaphors at a frequency of .33 per page. The fifth and final chapter, in which the European alternative was described, made use of only 3 metaphors, at a frequency of .16 per page.

Deployment of metaphors begins in the first chapter with a relatively high frequency, peaks in the second chapter, then tapers off thereafter. To the degree that we take metaphors to perform a rhetorical function, we may say that their rhetorical effect in the text is concentrated in what appears to be a functional

manner. In the first chapter, “Introductory,” Clarke outlines his case. In the second, he describes the physiological basis of his findings, including the bodily mechanisms and functions that relate identical coeducation to women’s illness. The third chapter, “Chiefly Clinical,” describes a series of cases in some detail and illustrates the phenomenon to which the text bears witness. The fourth chapter, “Coeducation,” distinguishes among various options for educating women, identifies logistical and other practical barriers to the appropriate education of the sexes, and lays out Clarke’s recommendations in this matter. The fifth and final chapter, “The European Way,” describes in detail the pastoral vision of European education, in which Clarke’s admonitions take form, and by which the evils of women’s illness are avoided.

We should expect, by this topical division and by Clarke’s own emphases, that the greatest burden of proof should fall to Chapter 2, in which Clarke’s authority and the jurisdiction of physiology are extended into the realm of women’s education. In fact, this is the chapter in which the greatest number and frequency of metaphors occur. The introductory overview in which he hopes to gain initial compliance from reader has the second highest frequency. The third and fourth chapters, detailing case studies and Clarke’s prescriptions, each contain a moderate number and frequency, and use of metaphor drops off sharply in the final chapter describing European educational traditions.

In addition to correlating with the text’s varying logical burden of proof, the metaphors deployed correlate with the changing tone taken by the authorial voice. In the first chapter, the text is generously welcoming and personally expansive. In the second chapter, the reader is initiated into the mysteries of physiological function. It is in this section that the loftiest, awestricken tone, and the highest notes are sounded. The third chapter is largely filled with details of the lives and ills of the women who are the subject of the case studies. The tone here is one of deep, somber regret, as might befit the scene of a tragedy. The fourth chapter takes on an admonitory tone, in which the authorial voice lectures the reader in appropriate rules and guidelines of education. Finally, the last chapter engages the objective reporting voice embodied in Chapter 3 before ascending once again to the lofty abstractions found in Chapter 2. The point to my observations of tone is not to explain the incidence of one construct, metaphor, with another, tone, but rather to show a concerted movement in the text. Metaphors, like tone, form part of an orchestration of individual elements in which various rhetorical tools are brought to bear for maximum effect as needed

by the unfolding narrative. By deploying metaphors appropriate to the logic and tone of argument, the text achieves a type of rhetorical force.

Literal associations and patterns of reference do not exhaust the role of metaphor in the text. Metaphors inscribe a third level of interpretive tension. The experience of textual forms exceeds mimesis; language is not only literal, but figurative, affective. This affective impression need not rely on interpretation. Metaphors need not be "about" anything other than themselves, in the strictly denotative sense. Reading metaphors may provide a sensual pleasure derived from the simple experience of juxtaposition of concepts. In this sense, the experience of metaphor is gratuitous, self-fulfilling. Consider, for example, the text's description of the damage caused by women's forms of dress: "Corsets that embrace the waist with a tighter and steadier grip than any lover's arm, and skirts that weight the hips with heavier than maternal burdens, have often caused grievous maladies, and imposed a needless invalidism" (Clarke 1873: 25). This passage is part of a section in which the text appropriates a discursive momentum by association with the dress reform movement. The metaphor may be read literally as saying that the conventions of women's dress put a greater burden on women than do normal actions in the regular course of their lives. But this literal translation misses the richness of the metaphoric relation, the vivid, poetic connotations elicited by the thought of a lover's grasp, or the settling weight of pregnancy.

In another example, the text succinctly describes its purpose using a metaphor: "[The book's] object is to call attention to the errors of physical training that have crept into, and twined themselves about, our ways of educating girls, both in public and private schools…." (24). This reference may be literally read to say that errors have slowly and stealthily become part of the institution of American education. However, this interpretation is only part of the meaning evoked by the terms of the metaphor. The language employed draws a connotation of feral evil, even of serpentine constriction, and faintly echoes the Edenic fall from grace. These images are by no means a literal extension of the metaphor, nor in any sense a reduction of the primary form. Rather, these meanings reside at the very surface of the original composition.

Together, these examples demonstrate the erotic dimension of metaphoric reference. Although isolating the literal and figurative functions for analytic reasons may be informative, these performances work in concert in the text to achieve metaphoric effect. Hence, the text's extended use of metaphor performs a suasory function at both rational and affective levels.

4. Discussion

This case study suggests first that metaphor serves a complex role as a tactical resource for participants in scientific or quasi-scientific discourse. Three particular levels of function were identified. First, metaphors may be used locally to obtain particular conclusions. In this role, metaphor asserts conclusions by way of familiar images, making the extension seem routine and logical. Second, repeated patterns of metaphoric tenors, vehicles, and objects may be used to create redundant "waves" of implication. This redundancy can serve to overdetermine impressions on the part of the reader, and so strengthen conclusions reached in the text. Third, the presence of metaphors may provide an inherent attraction for readers insofar as the experience of metaphor can result in a sense of satisfaction.

Science has long asserted a transcendence of language by way of direct correspondence with reality, a claim disputed by rhetoricians and students of the scientific idiom during the past forty years. This study adds to a growing consensus that holds that scientific legitimacy should be considered a rhetorical device, apart from whatever other functions it may perform. Scientific legitimacy applied to lay contexts changes the interpretation of language in important ways. Among the most important of these changes concerns evidence and burden of proof. In lay contexts, we might expect an effective argument to present evidence linked by logic to some conclusion. Scientific legitimacy removes understanding of argument from the layperson by drawing on technical knowledge and esoteric connections. Far from disarming metaphor and other rhetorical devices, the use of this strategy allows for greater rhetorical effect by removing the grounds of counterargument from the common person, leaving him or her rhetorically defenseless against scientific pronouncement.

Sex in Education demonstrates the efficacy of crossing argumentative domains. Taken as a whole, the text represents a rhetorical hybrid, in which scientific data that support its case are combined with the figurative and ideological function of metaphor. Neither resource alone would suffice as utilized in the text; the case lacks scientific rigor and persuasive virtuosity in the traditional sense. But the hybrid strategy makes each resource more effective by virtue of the other's contribution. Case studies that should, by scientific standards, represent a population are transformed by way of figuration into pathos, a form of popular proof, and so escape the judgment and constraint of scientific criteria. Credibility that should ordinarily rely on the strength of pronouncement is amplified in the text by the idiom of science. By shuttling back and forth in this fashion between

esoteric and public language domains, the text constructs a powerful argument that evades counterarguments grounded solely in either domain.

A defense to this strategy cannot be found in purging science of rhetoric, because the language that constitutes science has a rhetorical "intent" entirely apart from the goals and desires of any particular author (even though, in some cases, these intentions may overlap). This rhetorical intention resides in the common language itself, and cannot be divorced from any particular articulation. Still less profit may be found in attempting to remove science from rhetoric. Technical fields of study encompass knowledge that for practical reasons is removed from the layperson, and any attempt to make every argument accessible to everyone invites certain failure. Instead, this study indicates greater comprehension of the rhetorical dimension of the interplay of science and the public domain. Simply, and not so simply, understanding the rhetorical operations that affect us, and how these operations change when conducted across discursive geography equips us with the skills needed to decipher confusion, dispel mystery, and disarm obfuscation. In this role of common denominator, rhetoric provides continuity, a link among discursive domains.

Like Darwin's *Origin of Species*, Clarke's work makes little pretense of following the hypothetico-deductive model. Rather, both texts are remarkable for their virtuosity in reframing what was previously considered "fact," and exploiting argumentative potentials of diverse discursive traditions. Both authors combined ostensive fact and the heuristic potential of literary resources, suggesting an inventional strategy common to the genre. If Clarke's work has proven far less influential than Darwin's, it may be due to the less ambitious scope of Clarke's vision, and the extended reframing of fact that followed the publication of *Sex in Education*.

This should not be taken to minimize the achievement of *Sex in Education*. The text formed an important part of an emerging bio-rhetoric, in which the discursive resources of physiology were applied in the field of women's education. This application initiated a new source of rhetorical invention, and may be said to have revolutionized the debate over women's educational access. In addition, the text serves as an illustration of both the rhetorical potential and danger represented by the ideological function of metaphor.

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ISSA Proceedings 1998 – Delivering The Goods In Critical Discussion

1.The pragma-dialectical theory of argumentation ***[i]***

In the 1970s, inspired by Karl Poppers critical rationalism, an approach to argumentation was developed at the University of Amsterdam that aimed for a sound combination of linguistic insight from the study of language use often called pragmatics and logical insight from the study of critical dialogue known as philosophical dialectics (van Eemeren and Grootendorst 1984). Therefore, its founders labelled this approach *pragma-dialectics.* In pragma-dialectics, argumentation is viewed as a phenomenon of verbal communication; it is studied as a mode of discourse characterized by the use of language for resolving a difference of opinion. Its quality and possible flaws are measured against criteria connected with this purpose.

In the 1980s, a comprehensive research programme was developed. This programme was, on the one hand, based on the assumption that a philosophical ideal of critical rationality must be developed, in which a theoretical model for argumentative discourse in critical discussion could be grounded. On the other hand, the programmes point of departure was that argumentative reality has to be investigated empirically to achieve an accurate description of actual discourse processes and the various factors influencing their outcome. In the analysis of argumentative discourse the normative and descriptive dimensions were to be linked together by a methodical reconstruction of the actual discourse from the perspective of the projected ideal of critical discussion. Only then, the practical problems of argumentative discourse as revealed in the reconstruction could be diagnosed and adequately tackled.**[ii]**

Crucial to grounding the pragma-dialectical theory in the philosophical ideal of critical rationality is a model of *critical discussion.* The model provides a procedure for establishing methodically whether or not a standpoint is defensible

against doubt or criticism. It is, in fact, an analytic description of what argumentative discourse would be like if it were solely and optimally aimed at resolving a difference of opinion. The model specifies the various stages and rules of the resolution process, and the types of speech act instrumental in each particular stage.

2.Current research projects in pragma-dialectics

Because the rules for critical discussion are a specification of the norms discussants need to observe in order to resolve a difference, it is to be expected that people who resolve their differences by means of argumentative discourse will maintain norms that are, at least in part, equivalent with the pragma-dialectical rules. To determine systematically to what extent the pragma-dialectical rules agree with the norms applied – or favoured – by ordinary language users, the pragma-dialecticians have embarked upon a research project aimed at testing the 'conventional' validity of these rules.**[iii]** In this project, as reported in this volume, experimental empirical investigations are carried out in which ordinary language users assess fragments of argumentative discourse that contain various kinds of fallacious discussion moves for their acceptability.**[iv]** The results provide general insight into ordinary language users' conceptions of reasonableness.

Another research project that has been started with the ideal of critical discussion as its point of departure, deals with the verbal means used in argumentative discourse to indicate the communicative and interactional functions of the various verbal moves. The aim of this project is to make an inventory of potential indicators of moves that are relevant for a critical discussion – and to identify the conditions for giving a certain expression a specific function in the resolution process. In her contribution to this volume, Francisca Snoeck Henkemans explains that the scope of the project is not restricted to well-known relational indicators such as 'therefore', and indicators of argumentation such as 'my reasons for this are', but extends to indicators of counterarguments and relations between arguments, and also to indicators of moves in other stages of the resolution process: expressing antagonism, granting concessions, adding a rebuttal, et cetera.**[v]**

In *Reconstructing Argumentative Discourse,* co-authored by Frans van Eemeren, Rob Grootendorst, Sally Jackson and Scott Jacobs, the ideal of critical discussion is used as a point of departure for the analysis of a variety of specimens of

argumentative discourse. Such an analysis results in an analytic overview that can be the basis for a critical evaluation. It makes clear what the difference of opinion is that is developed in the confrontation stage, which positions are being taken and which premisses serve as the starting point in the opening stage, which arguments and criticisms are – explicitly or implicitly – advanced and which argumentation structures and argument schemes are being used in the argumentation stage, and what conclusion is finally reached in the concluding stage. Because the speech acts – and combinations of speech acts – that play a part in the various stages of the resolution process are all specified in the model of critical discussion, the model is a heuristic tool for reconstructing implicit or otherwise opaque speech acts (van Eemeren, Grootendorst, Jackson, and Jacobs 1993). Until recently, pragma-dialectical analysis tended to concentrate on reconstructing primarily the dialectical aspects of argumentative discourse. It is clear, however, that the analysis and its justification can be considerably strengthened by a better understanding of the strategic rationale behind the moves that are made in the discourse. For this purpose, it is indispensable to incorporate a rhetorical dimension into the reconstruction of the discourse. The project we report about in this paper aims at integrating rhetorical insight methodically into the pragma-dialectical method of analysis.

3. Strategic manoeuvring in resolving a difference

Characteristically, people engaged in argumentative discourse share an orientation towards resolving some difference of opinion. They may be regarded as committed to the norms instrumental in achieving this purpose – maintaining certain standards of reasonableness and expecting others to comply with the same critical standards. This is, of course, not to say that they do not want to resolve the difference of opinion in *their own favour*. In practice, their argumentation and other speech acts may even be assumed to be designed to achieve precisely this effect.**[vi]** There is, in other words, always a *rhetorical* aspect to argumentative discourse.**[vii]**

The rhetorical pervasion of argumentative discourse does not mean that the parties involved are interested exclusively in getting things their way.**[viii]** Even when they try as hard as they can to get their point of view accepted, it is by no means necessarily so that they adopt an unreasonable attitude. They have, at any rate, to maintain the image of people who play the resolution game by the rules: they may be considered committed to what they have said, assumed or implicated. As a rule, they will at least pretend to be primarily interested in

having the difference of opinion resolved. If a move is not appropriate, they cannot escape from their dialectical responsibility by simply saying 'I was only being rhetorical'.**[ix]**

The balancing of a resolution-minded dialectical objective with the rhetorical objective of having one's own position accepted is prone to give rise to strategic manoeuvring. Generally, the parties will seek to fulfill their dialectical obligations without sacrificing their rhetorical aims. In the process, they will attempt to make use of the opportunities available in the dialectical situation for steering the conclusion of the discourse rhetorically in the direction that serves their own interests best.**[x]** In our view, an adequate analysis of argumentative discourse should take account not only of its dialectical dimension but also of its rhetorical dimension. To enrich the pragma-dialectical method of analysis with rhetorical insight, we view rhetorical moves as operating within a dialectical framework. This means that insight into strategic manoeuvring in argumentative discourse as it occurs in practice is incorporated in a resolution-oriented reconstruction.**[xi]** New conceptual tools must be developed for carrying out and justifying such an integrated analysis.

4. Integrating rhetoric into pragma-dialectical analysis

Since antiquity, there has been a division between rhetoric and dialectic.**[xii]** According to Toulmin's (1997) Thomas Jefferson Lecture, this division became ideologized with the Peace of Westphalia (1648). It led to the separate existence of two mutually isolated paradigms, which are seen as incompatible and as conforming to entirely different conceptions of argumentation**[xiii]** – if not a total neglect of this subject.**[xiv]**

Within the humanities, rhetoric has become the field of scholars in communication, language and literature. After already having been incorporated into logic by Ramus, dialectic has – with the further formalization of logic – in fact almost disappeared from sight. Although recently the dialectical approach to argumentation has been taken up again, there still appears to be among argumentation theorists a yawning gap between those formally-oriented theorists who opt for a dialectical approach and the humanist protagonists of a rhetorical approach.**[xv]**

On closer inspection – we have elaborated on this elsewhere (van Eemeren and Houtlosser 1997) – there have always been authors who see a connection between rhetoric and dialectic. For Aristotle, rhetoric is the mirror image or counterpart (*antistrophos*) of dialectic.**[xvi]** In the *Rhetoric*, he assimilated the opposing views

of Plato and the sophists (Murphy and Katula 1994: Ch. 2). According to Reboul, in the first chapter Aristotle wrote 'que la rhétorique est le "rejeton" de la dialectique, c'est à dire son application, un peu comme la médicine est une application de la biologie. Mais ensuite, il la qualifie comme une "partie" de la dialectique' (1991: 46). In late antiquity, Boethius subsumes rhetoric in De *topicis differentiis* under dialectic (Kennedy 1994: 283). According to Mack, 'for Boethius dialectic is more important, providing rhetoric with its basis' (1993: 8, n. 19). Mack explains that the development of humanism 'provoked a reconsideration of the object of dialectic and a reform of the relationship between rhetoric and dialectic' (1993: 15).

In *De inventione dialectica libri tres* (1479/1991), a major contribution to humanist argumentation theory, Agricola builds on Cicero's view that dialectic and rhetoric cannot be separated and merges the two into one theory.**[xvii]** Unlike Perelman and Olbrechts-Tyteca, who bring elements from dialectic into rhetoric, Agricola incorporates elements from rhetoric into dialectic.**[xviii]** We opt for a similar approach.

To overcome the sharp and infertile ideological division between rhetoric and dialectic, we view dialectic as a theory of argumentation in natural discourse, fitting rhetorical insight into persuasion techniques into this theoretical framework.**[xix]** In the words of van Eemeren, Grootendorst, Jackson and Jacobs, dialectic is 'a method of regimented opposition [in verbal communication and interaction] that amounts to the pragmatic application of logic, a collaborative method of putting logic into use so as to move from conjecture and opinion to more secure belief' (1997: 214).**[xx]**

The Aristotelian rhetorical norm of successful persuasion is not necessarily in contradiction with the ideal of reasonableness that lies at the heart of this pragma-dialectical approach. Why would it be impossible to comply with critical standards for argumentative discourse when attempting to shape one's case to one's own advantage?**[xxi]** A critical audience will probably require rhetorically strong argumentation to be in agreement with the dialectical norms pertaining to the discussion stage concerned.**[xxii]** From this point of departure, we have started to integrate the rhetorical dimension into the pragma-dialectical method for analysis.**[xxiii]**

5. Levels of manoeuvring in different stages

An understanding of the role of strategic manoeuvring in resolving a difference of

opinion will deepen and strengthen the pragma-dialectical reconstruction of argumentative discourse. It does so by revealing how the opportunities available in a certain dialectical situation are used to complete a particular discussion stage most favourably for the speaker or writer. Each stage in the resolution process constitutes a dialectical situation that is characterized by a specific aim. As the parties involved want to achieve the definition of the dialectical situation most beneficial to their own purposes, they will attempt to make the strategic moves that serve this interest best. Therefore, the dialectical aim prevailing in a particular discussion stage always has a rhetorical analogon as its corollary. Because what kind of advantages can be gained depends on the dialectical stages, the presumed rhetorical aims of the participants must be specified according to stage.

Rhetorical manoeuvring can consist in making a choice from the options constituting the *topical potential* associated with a particular discussion stage, in deciding on a certain adaptation to *auditorial demand*, and in taking a policy in the exploitation of *presentational devices*. Given a certain difference of opinion, speakers or writers can choose the material they find easiest to handle; they can choose the perspective that is most agreeable to the audience; and they can sketch this perspective in their verbal presentation in the most flattering colours. On each of these three levels of manoeuvring, they have a chance to influence the result of the discourse strategically.

The topical potential associated with a particular dialectical stage can, in our view, be regarded as the collective of relevant alternatives available in that stage of the resolution process.**[xxiv]** As Simons (1990) observes, the ancient Greeks and Romans were already aware that on any issue there is a finite range of stratagems that can be called upon when discussing a case. Perelman and Olbrechts-Tyteca rightly emphasize that from the very fact that certain elements are selected, 'their importance and pertinence to the discussion are implied' (1969: 119). Apart from endowing elements with a 'presence' deliberate suppression of presence is, in their view, also a noteworthy phenomenon of choice (1969: 116).**[xxv]** Other modes of choice are defining a difference of opinion, or interpreting a starting point, in the way the speaker or writer finds easiest to cope with.

On the level of making a choice from the topical potential, strategic manoeuvring in the confrontation stage aims, for example, at making the most effective choice among the potential issues for discussion – restricting the 'disagreement space' in

such a way that the confrontation is defined in accordance with the speaker or writer's preferences. In the opening stage, strategic manoeuvring attempts to create the most advantageous starting point for the speaker or writer, for instance by calling to mind – or eliciting – helpful 'concessions' from the other party. In the argumentation stage, starting from the list of 'status topes' associated with the type of standpoint at issue, a strategic line of defence involves the selection from the available *loci* that best suits the speaker or writer. In the concluding stage, all efforts will be directed towards achieving the conclusion of the discourse desired by the speaker or writer, for instance by pointing out the consequences of accepting a certain complex of arguments.

In order to achieve the optimal rhetorical result, the moves that are made must in each stage of the discourse be adapted to auditorial demand in such a way that they comply with the audience or readership's good sense and preferences.**[xxvi]** Argumentative moves that are entirely appropriate to some may be inappropriate to others. In general, adaptation to auditorial demand will consist in an attempt to create 'communion'. This may manifest itself in the confrontation stage, for example, by the avoidance of unnecessary or unsolvable contradictions. According to Perelman and Olbrechts-Tyteca, disagreement with respect to values is sometimes communicated to the audience as disagreement over facts, because it is easier to accommodate. As a rule, a speaker's or writer's effort is directed to 'assigning […] the status enjoying the widest agreement to the elements on which he is basing his argument' (1969: 179). This explains why, in the opening stage, the status of a widely shared value judgement may be conferred on personal feelings and impressions, and the status of fact on subjective values. In the argumentation stage, strategic adaptation to auditorial demand may be achieved by quoting arguments the listeners or readers agree with or referring to argumentative principles they adhere to. In order to achieve the optimal rhetorical result, all available presentational devices must be strategically exploited in the discourse. This means that the moves should be systematically chosen for their discursive and stylistic effectiveness. In *De oratore*, Cicero observed an unbreakable unity between expression and content – verbum and *res*. Anscombre identifies expression with orientation: 'signifier pour un énoncé c'est orienter: non décrire ou informer, mais diriger le discours dans une certaine direction' (1994: 30). According to Perelman and Olbrechts-Tyteca, all argumentative discourse presupposes 'a choice consisting not only of the selection of elements to be used, but also of the technique for their presentation'

(1969: 119).
Rhetorical figures that can be used as presentational devices are specific modes of expression; they are ways of presenting which make things present to the mind.**[xxvii]** Perelman and Olbrechts-Tyteca regard a figure as argumentative if it brings about a change of perspective (1969: 169).**[xxviii]** Among the many rhetorical figures that can serve argumentative purposes are – to name just a few classical examples – *praeteritio* and rhetorical questions. It depends on the stage of the discourse which figure may be helpful. According to Perelman and Olbrechts-Tyteca, figures such as *metalepsis* can, for instance, facilitate the transposition of values into facts, as in 'remember our agreement' for 'keep our agreement' (1969: 181).
Only if in a certain stage of the discourse the speaker or writer's strategic manoeuvrings on the levels of topical potential, auditorial demand, and presentational devices converge, shall we say that a 'rhetorical strategy' is being followed. Rhetorical strategies in our sense are methodical designs of moves manifesting themselves in argumentative discourse on all three levels in the systematic, co-ordinated and simultaneous use of the available opportunities for influencing the result of a specific dialectical stage to one's own advantage. There are confrontation strategies, such as evasion or 'humptydumptying' in defining the difference. There are also opening strategies, such as creating a broad zone of agreement or, the opposite, a 'smokescreen'. Included in such argumentation strategies are spelling out factual consequences and 'knocking down' the opponent. A notorious concluding strategy is forcing the audience to 'bite the bullet'. In our view, the various rhetorical styles used in conducting argumentative discourse are characterized by a particular combination of the use of such strategies.

6. Delivering the goods in William the Silent's Apologie
This proclamation is at the same time the conclusion of this paper. In a second paper, entitled *William the Silent's argumentative discourse* (this volume), we illustrate our method of analysis by providing a partial reconstruction of this 16th Century revolutionary's *Apologie*.

NOTES
i. We thank Dale Brashers, Eveline Feteris, Bart Garssen, Susanne Gerritsen, David Hitchcock, Scott Jacobs, Bert Meuffels, Agnès van Rees, Maarten van der Tol and John Woods for their useful comments on an earlier version of this paper.

ii. In the pragma-dialectical research programme, argumentative discourse is approached with four basic metatheoretical, or methodological, starting points: the subject matter under investigation is to be externalized, socialized, functionalized, and dialectified.

iii. Each of the pragma-dialectical discussion rules constitutes a distinct standard for critical discussion. An infringement of any of the rules, whichever party commits it and at whatever stage in the discussion, is a possible threat to the resolution of a difference of opinion and must therefore be regarded as an incorrect discussion move or fallacy. It can be shown that the pragma-dialectical rules are problem valid in the sense that non-compliance with any of the rules is an impediment to the resolution of a difference of opinion. In order to be effective in resolving a difference, they must also be intersubjectively acceptable to people who wish to resolve their differences by means of argumentative discourse: they have to be tested for their conventional validity.

iv. See van Eemeren, Grootendorst, Meuffels, and Verburg (this volume). The results of these empirical investigations also provide an empirical basis for developing textbooks in which appropriate pedagogical attention is paid to specific argumentation rules.

v. Argumentative connectors, such as incidentally, in addition and since because provide information about the structure of the argumentation, even and let alone, about the relative weight of arguments, and nevertheless and still about their oppositional character.

vi. Simons (1990) observes that in this endeavour all issues must be named and framed, all facts interpreted, and the argumentative discourse must be adapted to an end, an audience, and the circumstances.

vii. In a general sense, all discourse is rhetorical since the participants are intent on making a certain impression on their audience, for instance by being polite. See Leech (1983) and Levinson (1983).

viii. Although in some cases rhetorical goals appear to be pursued that are entirely foreign to resolving a difference – e.g. being perceived as nice – argumentative discourse – purportedly – always aims at resolving a difference.

ix. According to the pragma-dialectical theory of argumentation, rhetorical moves that violate a dialectical norm are contra-dialectic, and are to be considered fallacious. See for this approach to fallacies van Eemeren and Grootendorst (1992).

x. In this, we disagree with Perelman and Olbrechts-Tyteca, who differentiate between rhetorical debate and dialectical discussion: ‘discussion came to be

considered as a sincere quest for the truth, whereas the protagonists of a debate are chiefly concerned with the triumph of their own viewpoint' (1969: 38).

xi. In doing so, the differences between the real and the ideal are appropriately appreciated. See van Eemeren and Houtlosser (1997). Reality differs from the ideal in the sense that the ideal model of critical discussion not only includes only elements that are functional in resolving a difference, but also transcends the vices of argumentative practice.

xii. In Aristotle's view, these disciplines (and analytics) were 'supplementary' to disciplines that have their own substance. See Gaonkar (1990).

xiii. According to Govier, rhetoric and dialectic represent different perspectives on argumentation: 'argue to win our case' and 'argue in search of the truth' (1997: 73).

xiv. The geometrical world view, and the accompanying formal paradigm of the exact sciences, had become synonymous with rationality. For the humanists, argumentation had been part of an attempt to resolve a difference of opinion between people in a reasonable way, with rhetoric playing a legitimate role in the resolution process. In the exact sciences reasonable argumentation was equated with reasoning rationally by means of formal derivations – and rhetoric did not have a part.

xv. On one side there are the dialectical theories of argumentation with a formal – arhetorical – character, such as Hamblin's (1970) and Barth and Krabbe's (1982) 'formal dialectic' (based on the dialogue logic of the Erlangen School) and the formal approach to the fallacies by Woods and Walton (1989). On the other side are the rhetorical – anti-formal – functional and contextual approaches, such as Perelman and Olbrechts-Tyteca's (1969) 'new rhetoric' and the rhetorical tradition in American speech communication and among philosophers.

xvi. Reboul observes that for antistrophos the translators 'donnent […] tantôt "analogue", tantôt "contrepartie"'. He adds (1991: 46): 'Antistrophos: il est gênant qu'un livre commence avec un terme aussi obscur!'

xvii. For Cicero rhetoric is also disputatio in utramque partem, speaking on both sides of an issue.

xviii. According to Mack, Agricola's work is unlike any previous rhetoric or dialectic: '[He] has selected materials from the traditional contents of both subjects' (1993: 122). In Meerhoff's (1988: 273) view, 'pour Agricola, […] loin de réduire la dialectique à la seule recherche de la vérité rationelle, il entend parler de celle-ci en termes de communication.

xix. Kienpointner (1995: 453) points out that many scholars see rhetoric as 'a

rather narrow subject dealing with the techniques of persuasion and/or stylistic devices', while others conceive of rhetoric as 'a general theory of argumentation and communication' (and still others deny that it is a discipline at all). According to Simons (1990), most neutrally, rhetoric is the study and the practice of persuasion.

xx. In thus defining dialectic as discourse dialectic, our conception differs in various ways from Aristotelian, Hegelian and formal dialectic.

xxi. Since the recent revaluation of rhetoric, there is a general acknowledgement that the a-rational – and sometimes even anti-rational – image of rhetoric must be revised. According to Gaonkar (1990), this 'rhetorical turn' explicitly recognizes the relevance of rhetoric for criticism and as an interpretative method.

xxii. Some other theoreticians, such as Reboul, also recognize that rhetorically strong argumentation should comply with dialectical criteria: 'On doit tout faire pour gagner, mais non par n'importe quels moyens: il faut jouer [le jeu] respectant les règles' (1991: 42). See also Wenzel (1990).

xxiii. For other proposals to subordinate rhetoric to dialectic, see, for example, Natanson (1955). See also Weaver (1953).

xxiv. In the way we use the term topics, there are topical systems for all discussion stages, not just for the argumentation stage.

xxv. Edward Kennedy's 'Chappaquidick speech' illustrates how suppression of presence can be used strategically. See van Eemeren, Grootendorst, Jackson, and Jacobs (1993: vii-xi) and van Eemeren and Houtlosser (1997).

xxvi. In our approach, the audience is not just Perelman and Olbrechts-Tyteca's 'ensemble of those whom the speaker wishes to influence by his argumentation' (1969: 19), but coincides with the antagonist in a critical discussion.

xxvii. Perelman and Olbrechts-Tyteca regard a rhetorical figure as 'a discernible structure, independent of the content, […] a form (which may […] be syntactic, semantic or pragmatic) and a use that is different from the normal manner of expression, and, consequently, attracts attention' (1969: 168).

xxviii. In Perelman and Olbrechts-Tyteca's opinion, 'if the argumentative role of figures is disregarded, their study will soon seem to be a useless [or literary] pastime' (1969: 167).

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ISSA Proceedings 1998 – William The Silent's Argumentative Discourse

1.William the Silent and the Dutch Revolt

This paper **[i]** is the second part of a two-part paper; the first part is entitled *Delivering the goods in critical discussion* (this volume). The general outlines of the framework we are developing for analyzing argumentative discourse are explained in the first paper. As a brief illustration of the application of our method, we shall here reconstruct some important features of an argumentative discourse produced by William the Silent, our 16th Century revolutionary.

As you may know, the years between 1555 and 1648 were a heroic period in Dutch history; they were decisive for the existence of the Netherlands as an independent state. These were the years of protest against the persecution of Lutheran, Calvinist and other Protestants, and resistance against the tyrannical Spanish Duke of Alva. Alva was governor of the Netherlands on behalf of King Philip II, who preferred to live permanently in Spain, which made that monarch more of a foreigner than his father, the Emperor Charles V, had been. The Revolt, as this period in Dutch history is generally called, led to the Abjuration of King Philip II and the founding of the Republic of the United Netherlands.

The political system Philip II inherited in the Netherlands can be described as a '*dominium politicum et regale*'. On the one hand, the sovereign governed according to laws and rules of his own design. On the other hand, he needed the people's consent to maintain these laws and rules (van Gelderen 1994). The political actions of Philip and his representatives were divisive in various respects; they led to an uproar that developed step by step into a real revolt. In this escalating development, various kinds of events and ideological considerations played a part. In the process, the Dutch Revolt became a fundamental source for the evolution of modern thinking about political power, the right of opposition, and national sovereignty.

The leader of the Dutch Revolt was William of Orange, better known as William the Silent – because of his gift of keeping his real purposes diplomatically hidden. Since William was not only in a political and practical sense the inspiration and guardian of the Revolt, but also the intellectual leader, he is honoured to this day as the Father of the Fatherland, *Pater Patrias*. Born in 1533 as son of the ruler of the German principality of Nassau, he achieved his prosperity and a prominent position at the court of Charles V by unexpectedly inheriting from his cousin René of Châlons the title 'Prince of Orange', with all its accompanying wealth. William

then became one of the mightiest men in the Netherlands.

After Philip II had succeeded his father in 1555, gradually the whole power structure of the Netherlands began to collapse. Owing to various factors, one of them being the severe repression of the Reformation by the King and his collaborators, an anti-Hispanic movement started to grow. The basic principles of sovereignty and their practical consequences became a matter of debate. As the revolution gained momentum, numerous texts – varying from public letters to extensive *apologias* – were published in an effort to legitimize the Revolt.
We are interested in examining the qualities of the argumentative discourse in which the motives for the Revolt are discussed – and usually defended. In particular, we would like to reconstruct the justification of William's actions offered by his famous Apologie. In reconstructing the historical meaning of the text, we follow Skinner (1978) and Pocock (1985: 1-34) in taking due notice of the political and, more particularly, intellectual and ideological context.

2. An integrated method of analysis
In *Delivering the goods in critical discussion* we explained that a pragma-dialectical analysis of argumentative discourse amounts to a methodical reconstruction from the perspective of the projected ideal of resolving a difference of opinion by critical discussion. In the 'confrontation' stage of the discussion the difference is defined; in the 'opening' stage the starting point is established; in the 'argumentation' stage arguments and critical reactions are exchanged; in the 'concluding' stage the result of the discussion is determined. The pragma-dialectical analysis results in an analytic overview that contains all moves that are made in the discourse which are relevant in the various discussion stages; it can serve as a basis for a critical evaluation (van Eemeren and Grootendorst 1992).
The project we are currently engaged in aims at enriching the pragma-dialectical method of analysis with rhetorical insight into the strategic manoeuvring taking place in argumentative discourse. How exactly are the opportunities offered by the dialectical situation in a discourse being exploited by the speaker or writer? Each stage in the resolution process has its own dialectical aim; it therefore depends on the stage the discourse has reached as to what kinds of advantage can be achieved rhetorically.
Strategic manoeuvring may, in our view, take place in choosing from the 'topical potential' available in a particular discussion stage, in adapting to 'auditorial

demand', and in exploiting 'presentational devices'. The selection potential we view as a *topical system* associated with a particular stage in the resolution process. By selecting certain issues, defining and interpreting them, they are given 'presence' in the discourse, and by suppressing issues their importance and pertinence are denied. In adapting to auditorial demand, in each stage the moves that are made comply with the audience's good sense and preferences. The audience, which coincides with the antagonist in a critical discussion, may consist of various parts, so that certain moves can be effective in creating communion with one part, but not with another. In exploiting presentational devices, rhetorical figures are used to make the various moves most effectively present to the mind. In the one case, this may, be achieved by means of praeteritio: drawing attention to something by saying that you will refrain from dealing with it. In other cases, a rhetorical question may be a more effective manoeuvre.

3.William's Apologie as a specimen of argumentative discourse

Let us now return to William the Silent. Having led the revolt against Philip II, numerous attacks on William' s life were planned – one of them, indicentally, by a sea-captain called Hans Hanssen. At first Philip formally kept himself apart from such actions, but in 1580 a royal Proclamation and Edict was published against the Prince of Orange, which officially outlawed him. Apart from grossly misrepresenting the course of the Revolt and William's role in it, this document attributes the worst imaginable vices to the Prince, accusing him of being 'the public plague of Christendom' and 'the enemy of mankind'. It promises a large sum of money and a peerage to the person who will kill the Prince. William the Silent's *Apologie*, written by his court chaplain Villiers in close co-operation with the Prince, was his response: it is a defence against various accusations, and a justification of his behaviour.

In the first place, the *Apologie* is a political pamphlet, albeit it a very lengthy one (more than one hundred pages). To a large extent, it has shaped future positive views on the Prince of Orange, as well as future negative views on his adversary, King Philip II.**[ii]** The *Apologie*, submitted to the States General in December 1580, was published in 1581 in French, together with a Dutch translation.In the same year, five French, two Dutch, and several Latin, German and English editions appeared.**[iii]** It is clear that the *Apologie* appealed to a great many readers – not just to those to whom it was immediately directed (Wedgwood 1989: 222).

It is characteristic of William the Silent's writings that they are calculated to take

carefully account of the ideas of the people to whom they are addressed (Swart 1978, 1994). The attitude assumed by the author seems to a large extent to depend on his addressee (Smit 1960: 7-10, de Vrankrijker 1979: 123). It is therefore important to realise that the *Apologie* is addressed simultaneously to a number of different readerships. In this text, William of Orange is the protagonist, but the antagonists vary: the formally addressed States General – the collective of the Provincial States of the Netherlands; the rulers of European principalities to whom the Apologie was also sent; the formal protagonist of the counter standpoint, i.e., the avowed adversary Philip II; the successive governors and their counsellors – such as cardinal Granvelle – who shared Philip's standpoint; the malcontent Dutch Roman Catholic nobility that had turned against the Revolt; and individual traitors who implicitly defended
contrary positions.

Being an apologia, William the Silent's essay represents a specific text genre: a special type of argumentative discourse, aimed at justifying oneself against accusations by others. Viewed from a pragma-dialectical perspective, the *Apologie* involves a delicate balancing of – real or professed – dialectical resolution-mindedness with strategic manoeuvring, with a view to achieving the rhetorical objective of having William's position accepted by all. William the Silent's *Apologie* can be analyzed as an attempt to achieve certain rhetorical aims without sacrificing any dialectical ambitions. To show how the available opportunities are used to this end in the *Apologie*, we shall give an analysis that integrates the rhetorical dimension into the dialectical dimension. We do not pretend to provide a fully-fledged integrated dialectical and rhetorical analysis of the text: we merely intend to illustrate our view of the various levels of strategic manoeuvring in the consecutive stages of argumentative discourse.

4. Analysis of William's strategic manoeuvring

The *Apologie* gives the impression of being an angry outcry in which various perspectives and views are unsystematically combined and scattered bits of information are presented in arbitrary order. However, when viewed analytically, and particularly when seen against the background of King Philip's Proclamation, the *Apologie* proves to be an argumentative discourse in which the dialectical stages can be readily identified. We shall here concentrate on reconstructing the strategic manoeuvring in each of these stages.

Confrontation stage

Starting with the confrontation stage, which introduces the differences of opinion that occupy the author, it becomes clear that the Prince has selected an overwhelming number of issues, intending to cover virtually everything that relevantly can be said about the subject. These issues can be divided into several conglomerates. Most are a direct response to accusations made in the ban edict. They affect political, religious and personal aspects of the Prince's supposed rebellion. The political issues involve the juridical right of the Dutch – with the Prince as their leader – to stand up against their Sovereign, and the Prince's view of who is, in the end, entitled to take over government: the States General. The most important religious issues are Philip's suppression of Protestants and the right of freedom of conscience. Personal issues concern the Prince's descent, his marriages, his actions against Philip, and his motives for leading the Revolt.
A second, and surprisingly large, number of issues echo themes that earlier had been sounded by the Prince's compatriots. A telling example of this manifestation of internal dissent is the accusation that the Prince had stolen public money. But, as he himself emphasizes, everybody knew that he had spent his whole income and capital on the war against the Spaniards.
Last but not least, are the issues not really dealt with, but at best hinted at, although they are mentioned in the ban edict or known to have been discussed at the time. Of particular importance, in this respect, is the accusation in the ban edict that the Prince, at the time that he was still a Privy Councillor, had already started his dealings with the government's enemies.**[iv]** The Prince clearly evades this issue.

William's adaptation to his readership consists primarily in securing that the various components of his audience are being targetted by addressing the kinds of issue they are particularly interested in. The States General are met by the treatment of political issues, particularly those where agreement with the Prince can be expected. Religious issues are of additional interest to the German rulers, who preach moderation, as well as to the Calvinists, who want to defend the Reformation, but probably also to the non-Calvinist Dutch nobility that wishes to protect Roman Catholics and other non-Calvinists. The Germans are approached by condemning the excesses of Calvinism, the Calvinists by an emphasis on their religious primacy, the non-Calvinist nobility by guarantees for the safety of the Roman-Catholics.
Among the presentational devices that the Prince uses most frequently in the confrontation stage are *praeteritio* and irony. *Praeteritio* is used to raise topics 'in

passing', implying that they are not worth going into, while at the same time making the point. Important issues, such as the attitude of Philip and his governors towards William of Orange, are in this way effectively dealt with: 'I will not repeat the perjuries and deceits of the Duchess [of Parma], nor of the King on behalf of My Lords the Counts of Egmont and Horne [decapitated by Alva], nor the baits and allurements which they prepared for me' (*Apologie*, 94). Irony plays an important part in representing certain assertions made by the King in the ban edict, as for instance his denial that he ordered the Duke of Alva to levy the notorious tenth and twentieth penny taxes: 'But that, my Lords, which is greatly to be esteemed in this Proscription, so true and well grounded, is this, that the King did not command the Duke of Alva to impose the tenth and twentieth penny without the consent of the people' (*Apologie,* 89).

Opening stage

In the opening stage of the discussion, the Prince's repeated attempts to evade the burden of proof by shifting the issue is a dominant technique. The technique is used when dealing with the issue of disloyalty. The Prince claims: 'We have not had, on our part, any infidelity or treason, or understanding with the Spaniards; as our enemies on their part have had. Have they not, against their faith and promise, with an armed power, begun a war?' (*Apologie*, 110).

The accusation of violating the provisional peace treaty known as the Ghent Pacification is resisted by turning the issue upside down: 'Often times in this execrable Proscription, and in their little foolish defamatory libels and secret letters, they object unto me that I have violated and broken the Pacification. Let us see how [the Spaniards] on their behalf have maintained and kept it' (*Apologie*, 102). The Prince's attempts at creating a favourable starting point further involve establishing his *ethos* by an artful narration of the 'factual' background of his predicament and the course of events. In his narrative, his account stands out of a conversation he had long before the beginning of the Revolt with the French King Henry II. Henry is said to have revealed to the Prince Catholic plans for exterminating the Dutch Protestants, which filled the Prince with a deeply-felt pity and presumably motivated him at this early stage to adopt the Protestants' cause.

Emphasizing common interests and shared goals, William adapts to the most important components of his audience by associating himself with the Dutch parties in the Revolt – the States General, the moderate nobility and the extreme Calvinists – and with the German Lutherans, while dissociating himself

consistently from Philip II and the Spaniards by attributing despicable secret intentions to them. A striking example of the Prince's attempt to create a bond with the Dutch is his vehement reaction to Philip's contention that William is of foreign descent. Apart from dealing with this contention directly, the Prince also deals with it indirectly by spending a substantial part (about ten pages) of his *Apologie* on an elaboration on his ancestors' services to the Netherlands.**[v]** As regards his use of presentational resources, the most prominent devices William exploits in the opening stage are those that implicate the States General, repeatedly using the introduction 'As you know, My Lords' – meanwhile ridiculing his opponents.

Argumentation stage

In the argumentation stage, the Prince favours three categories of arguments: arguments about whether he can be blamed for certain actions, religious arguments, and political arguments. The main thrust of his 'I am not to blame'-arguments is that the Spaniards and the malcontents themselves did much worse things. As far as religion is concerned, William silently exploits his account of how he had taken pity on the Protestants in order to guarantee his protection of the Reformation. His political arguments refer to the protective relation between a sovereign and his subjects, to Philip's violation of the oath of allegiance between lord and vassal, and to the disastrous consequences that the current course of events would have – the suppression of the Reformation would be only a first step towards suppression of the whole population and tyrannical terror.

In the 'I am not to blame'-arguments, adaptation to the audience involves reinforcing the idea that he who does worse things loses his right to speak up. The religious argument rests on ethos; it consists, in fact, in a pathetic arousal of emotion in the audience.

The warrant brought to bear in the first political argument is the appealing idea that a sovereign can be expected to protect his subjects rather than oppress them. The presentational device exploited in this argument is the use of folk wisdom: 'The people will more esteem him that maintains them, than him that would oppress them' (*Apologie*, 120-121). The second political argument is warranted by the principle that violating an oath eliminates an existing relation; the third by the rule that everything goes from bad to worse. In the oath argument, a counter-argument is turned into a pro-argument: 'If then I am not the King's natural subject – which he himself says –, I am by this unjust Proclamation

and sentence absolved from my oath' (*Apologie*, 73). The argument that everything goes from bad to worse is in its presentation supported by a citation from the Bible, which was earlier used – but then meant as a threat – by the Duchess of Parma and Granvelle: 'The father has corrected you with rods, but the son will chastise you with scorpions' (*Apologie*, 66).

Concluding stage

In the concluding stage, the Prince's object is to have his views accepted. At a further remove, the rhetorical aim, which can be described as a 'consecutive perlocutionary effect', is to win the political and financial support of the States General. The selection made in the *Apologie* involves an appeal for their solidarity and an urgent request for money: 'My Lords, […] keep your Union but do it […] not in words nor by writing only, but in effect also, so that you may execute that which your sheaf of arrows, tied with one band only, doth mean' (*Apologie*, 125). 'Employ all the means that you have, without sparing, I say, not the bottom of your purses, but that which abounds therein' (*Apologie,* 145). The adaptation which is to encourage the States General's acceptance of this request consists in emphasizing the Prince's disinterest and loyalty, and his willingness to obey them under any circumstances. Rhetorical questions are prominent among the presentational means used to achieve the target conclusion: 'Would to God, my Lords, either my perpetual banishment, or else my very death itself, bring onto you a sound and true deliverance from so many mischiefs as the Spaniards […] do devise against you […], how sweet should this banishment be onto me, how delightful should this death be onto me, for wherefore is it that I have given over, yea lost all my goods? Is it to enrich myself? Wherefore have I lost my own brothers, whom I loved more than my own life? […] Wherefore have I so long time left my son a prisoner, my son, I say, whom I ought so much to desire, if I be a father? Is it because you are able to give me another? Or because you are able to restore him to me again? Wherefore have I put my life so oftentimes in danger? What other recompense, what other reward, can I look for of my long travails, […] except to purchase and to procure your liberty, and, if need be, with the price of my blood?' (*Apologie,* 146).

5.Conclusion

On our definition, one can claim that a 'rhetorical strategy' is being followed in a certain stage of the discourse only if the strategic manoeuvrings in selecting from the available potential, adapting to the auditorial demand, and exploiting the

presentational devices converge. In William the Silent's *Apologie* this is often the case. A major confrontation strategy is that of overburdening the difference of opinion by bringing up an exhaustive list of issues and at the same time concealing some important issues from the audience. The opening strategy is to create a broad zone of agreement by being at all parties' beck and call. The argumentation strategies are intended to overwhelm the opponents, and to foster unity among his compatriots by sketching a doomsday scenario. The main concluding strategy, as it relates to the States General, can be characterized as making them bite the bullet.

NOTES

i. We thank Dale Brashers, Gerda Copier, Eveline Feteris, Bart Garssen, David Hitchcock, Bert Meuffels, Agnès van Rees, Maarten van der Tol and John Woods for their useful comments on an earlier version of this paper.

ii. The 'black legend' concerning the Spaniards finds its origin in William the Silent's Apologie.

iii. We shall refer to Wansink's (1969) edition of the English translation (1581).

iv. The Prince's letters to the Lutheran count Philip of Hessen – cited in Klink (1997: 120) – show that in this period the Prince was, in fact, guilty of high treason because he passed on state secrets to foreign rulers.

v. Pace Swart, who considers the Prince's elaboration on this point irrelevant (1994: 191).

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