ISSA Proceedings 2014 ~ A Means-End Classification Of Argumentation Schemes

Abstract: One of the crucial problems of argumentation schemes as illustrated in (Walton, Reed & Macagno, 2008) is their practical use for the purpose of analyzing texts and producing arguments. For this purpose, argumentation schemes will be analyzed as prototypical combinations between two distinct levels of abstraction, i.e. semantic (or material) relations and types of reasoning. These two levels can justify an end-means criterion of classification, representing the intended purpose of an argument and the means to achieve it. This criterion is strictly bound to the pragmatic purpose of an argumentative move and the ontological (semantic) structure of the conclusion and the premises.
Keywords: abstraction, argument, argumentation schemes, classification, semantic relations, types of reasoning

1. *Introduction*

Argumentation schemes have been developed in argumentation theory as stereotypical patterns of inference, abstract structures representing the material (semantic) relation and logical relation between the premises and a conclusion in an argument. They can be regarded as the modern interpretation and reconsideration of the ancient maxims of inference (Walton, Reed & Macagno, 2008; Walton & Macagno, 2006). Many authors in the last fifty years have proposed different sets and classifications of schemes (see Hastings, 1963; Perelman & Olbrechts-Tyteca, 1969; Kienpointner, 1992a, 1992b; Walton, 1996; Grennan, 1997; Walton, Reed & Macagno, 2008; van Eemeren & Grootendorst, 2004). These approaches raise crucial problems concerning the criteria used for distinguishing and classifying the schemes, and defining the structure of an argumentation scheme. These apparently purely philosophical questions are becoming increasingly important for practical purposes, in particular the application of the schemes to the field of education (Macagno & Konstantinidou, 2013; Nussbaum, 2011; Duschl, 2008; Kim, Robert Anthony & Blades, 2012; Rapanta, Garcia-Mila, & Gilabert, 2013) and Artificial Intelligence (Mochales & Moens, 2009; 2011).

The purpose of this paper is to address the problem of classifying the schemes starting from the analysis of their nature and structure. The different components of the natural patterns of arguments will be distinguished, and in particular the quasi-logical and the semantic levels. These distinctions will be used to show the shortcomings of the existing classifications, and to propose a new model based on the pragmatic purpose of an argument, which is regarded as a move (speech act) in a dialogue.

1. *Types of reasoning and semantic-ontological connections*

The relationship between the premises and the conclusion of an argument can be reconstructed based on generic principles. What guarantees the inferential passage is a specific major premise that includes the predicates occurring in the minor premise and the conclusion. In order to reconstruct and motivate the inferential structure, we need to distinguish the specific principle of inference from two other different levels: 1) the general rules of inference, i.e. the generic, semantic-ontological connections between the predicates of the argument that establish the *acceptability* of an argument; and 2) the logical rules governing the formal disposition of the terms or propositions in an argument, i.e. the rules of commitment establishing the *acceptance* of an argument. These levels of abstraction will be referred to as "specific *topoi*," "generic *topoi*," and "rules of commitment" (or logical rules).

2.1 *Specific topoi*

In the *Topics*, Aristotle pointed out a crucial difference between the topoi (or rather generic topics) and the *idia* (the specific topics) (Rubinelli, 2009, pp. 59-70). According to Aristotle, the specific topoi represent propositions that relate to specific disciplines, such as ethics, law, or medicine, which are used to draw specific conclusions. For instance, in the third book of the Topics some specific principles of inference concerning the classification of "what is better" are set out (*Topics*, 116a 13-18). Specific topics can be used both as an instrument for invention, namely for generating and finding the premises of an argument, and as premises warranting the conclusion (De Pater, 1965, p. 134; Stump, 1989, p. 29). For instance, a specific topos concerning one of the possible ways of classifying an action as "better" than another can be directly used to support the conclusion. We can analyze the following case:

Saving the money for buying a house is more desirable than spending it on expensive cars, because a house is more lasting than a car.

Minor premise	A house is more lasting than a car.
Major premise	That which is more lasting or secure is more desirable than that which is less so.
Conclusion	A house is more desirable than a car.

The reasoning can be represented as follows:
Minor premise – A house is more lasting than a car.
Major premise – That which is more lasting or secure is more desirable than that which is less so
Conclusion – A house is more desirable than a car.

The specific *topos* indicating one of the possible "operational" definitions of "to be better" directly warrants the conclusion. In specific domains of knowledge, specific topoi can be listed as instruments of invention, pre-packaged arguments that be used for supporting prototypical viewpoints. For example, ancient and modern treatises on legal topics (or rather on the specific commonly accepted principles of reasoning) indicate hundreds of topics that can be used by lawyers in certain circumstances, such as the following ones:
*When a man and a woman refer to each other with the name of "spouse", marriage is not proven, but is presumable. (*Everardus, Loci Argumentorum legales, 54, 13th paragraph*)*
Where a person does an act, he is presumed in so doing to have intended that the natural and legal consequences of his act shall result. (Lawson, 1885, p. 262)

These propositions are used in law to support specific conclusions, i.e. *prima facie* cases that can be rebutted when additional information comes in. Such arguments, however, have the purpose of shifting the burden of production, leaving up to the other party to provide contrary evidence.

Specific topoi provide relations between specific concepts ("acts"), which are abstracted from their individual occurrences (this specific act). These specific rules of inference are the subject matter of a further process of abstraction, leading from concepts to categories of concepts or meta-concepts, the generic topoi.

2.2 *Generic topoi – semantic-ontological relations*
Generic topics can be considered as abstractions from the specific ones, or more correctly, an abstraction from a large number of specific topics. They provide classes of both necessary and defeasible inferences. In the first class fall some maxims setting out definitional properties of meta-semantic concepts, i.e. concepts representing semantic relations between concepts, such as definition,

genus, and property. For example the *locus* from definition, which establishes the convertibility between definition and *definiendum*, represents also the essential logical characteristic that a predicate needs to have in order be considered as a "discourse signifying what a thing is." Other *loci*, such as the ones based on analogy or the more and the less, are only defeasible, as they represent only usual commonly accepted relationships.

In the *Topics*, Aristotle focuses most of his analysis on the topics governing the meta-semantic relations between concepts, i.e. genus, property, definition, and accident. Cicero reduced the Aristotelian list of *topoi* to 20 *loci* or maxims, grouping them in generic categories (differences) and dividing them in two broad classes, the intrinsic and the extrinsic topics. While the first ones proceed directly from the subject matter at issue (for instance, its semantic properties), the external topics support the conclusion through contextual elements (for instance, the source of the speech act expressing the claim). In between there are the topics that concern the relationship between a predicate and the other predicates of a linguistic system (for instance, its relations with its contraries or alternatives). We can represent Cicero's topics as follows:

Intrinsic		Extrinsic
Directly from the subject matter	*From things somehow related to the subject matter*	
1. *definitio* • By material parts (whole-part definition) • By essential parts (genus-species definition) 2. *notatio* (etymological relation)	1. *Coniugata* (inflectional relations) 2. *Genus* (genus-species relation) 3. *Forma* (species-genus relation) 4. *Similitudo* (similarity relation) 5. *Differentia* (difference relation) 6. *Contraria* (4 types of opposite relation) 7. *Adiuncta* (relation of concomitance) 8. *Antecedentia* 9. *Consequentia* 10. *Repugnantia* (incompatibles) 11. *Efficentia* (cause-effect relation) 12. *Effecta* (effect-cause relation) 13. *Ex comparatione maiorum, minorum, pariun* (comparison)	Authority

Figure 1: Cicero's classification of *generic topics*

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This classification was the model that was taken into account by several dialectical theories, of which the most important, due to its influence on the further medieval accounts, is the one developed by Boethius in *De Topicis Differentiis.*

2.3 *Rules of commitment – Logical form*

The Latin and medieval dialectical tradition accounted for a type of loci that was

not based on any semantic, metaphysical, or ontological relationship between concepts. These loci are not aimed at increasing the *acceptability* of a conclusion based on the *acceptability* of the content of its premises. Rather, they represent relations of *acceptance* (or commitment) between propositions. For instance, the acceptance of (or commitment to) the consequent of a conditional proposition follows from the acceptance of – or commitment to – the conditional and the antecedent thereof (Cicero, *Topica*, 53, 1-25). These "formal" topics were analyzed in particular in the dialectical theories of the 12th and 13th century. Such theories conceived the categorical syllogisms as proceeding from topics from the whole to the part, called "*dici de omni*" and "*dici de nullo*." These topics were grounded not on the semantic-ontological content of the propositions, but only on the meaning of the quantifiers (Green-Pedersen, 1984, p. 256).

This distinction between semantic-ontological and formal (logical) topics suggests an analysis of the different rules of inference in which the semantic-ontological topics are combined with the logical rules. Formal topics can be thought of as representing the highest level of abstraction, which groups together more generic principles different and somehow similar argument structures (Searle, 2001, p. 19). For example, the ancient topics from antecedents or *"dici de omni"* formalize the deductive pattern of *modus ponens* normally used in dialectics. However, many acceptable and reasonable arguments, such as reasoning from example or sign, follow formal patterns different from the deductive ones (see also Blair, 2007; Godden, 2005). In addition to the deductive rules, also the inductive ones need to be accounted for, and the type of reasoning called "abduction" (Pierce, 1992, pp. 140-141), "retroduction" (see Greenland, 1998, p. 545; Poole, 1988) or reasoning from best explanation (Josephson & Josephson, 1996, p. 15).

The prototypical relationship between the types of argument and the logical level of abstraction can be summarized in the table below, where three most important types of reasoning (or categories of arguments of the highest level) are distinguished:

Type of reasoning (abstraction - form)	Deductive axioms	Induction	Abduction
Type of argument	Argument from definition, genus...	Argument from example	Argument from (improper) signs
	Argument from cause to effect	...	Practical reasoning
	Argument from consequences	...	Argument from best explanation
	Argument from commitment	...	...

Figure 2: Types of argument and types of reasoning

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This classification suggests the possibility of analyzing arguments from a multi-logical perspective, in which the logical form can be described using distinct *types of reasoning*, which in turn can include various *logical rules of inference* (MP, MT…). However, in the Latin and medieval tradition, the formal rules of inference are treated as maxims and not as distinct levels of abstraction. For this reason, the two levels of the general, semantic topics and of the logical rules are not distinguished, and the possible interconnections between them are not taken into account.

The modern theories of argument schemes or argumentation schemes inherited this model, proposing classifications essentially mirroring the ancient approach. The rules of commitment are treated at the same level as the semantic-ontological topics, and not as distinct levels of abstraction. This approach can be extremely helpful for quickly identifying common characteristics in the arguments that are frequently used, but it leads to classificatory problems. A possible solution is to acknowledge the discrepancy between logical form and semantic content as a divergence in kind, and try to show how these two levels can be interconnected. The starting point is the model that, by merging the two levels, best mirrors the multi-logical approach to natural arguments: the model of argumentation schemes (Walton, Reed & Macagno, 2008).

2. *Argumentation schemes as imperfect bridges*

Argumentation schemes are stereotypical patterns of inference, combining semantic-ontological relations with types of reasoning and logical axioms and representing the abstract structure of the most common types of natural arguments. The argumentation schemes provided in (Walton, Reed & Macagno, 2008) describe tentatively the patterns of the most typical arguments. However,

by failing to distinguish between the two levels of abstraction, under the label of "argumentation schemes" fall indistinctly patterns of reasoning such as the abductive, analogical, or inductive ones, and types of argument such as the ones from classification or cause to effect.

In order to design a system for classifying the schemes, it is useful to understand the limits thereof, and investigate how the two distinct levels of abstraction are merged. For example the argument from cause to effect will be taken into account (Walton, Reed & Macagno, 2008, p. 168):

Argument from cause to effect

Major premise	Generally, if *A* occurs, then *B* will (might) occur.
Minor premise	In this case, *A* occurs (might occur).
Conclusion	Therefore in this case, *B* will (might) occur.

This argumentation scheme is based on a defeasible *modus ponens*, which is combined with a semantic causal relation between two events. The semantic-ontological level is merged with the logical one, and this combination represents only one of the possible types of inferences that can be drawn from the same semantic-ontological connection. The actual relationship between the two levels of abstraction is much more complex. For example, we consider the classic Aristotelian causal link between "having fever" and "breathing fast," and see how this cause-effect relation can be used to draw a conclusion on the basis of different logical rules:

1. He had fever. (*Fever* causes breathing fast). Therefore, he (must have) breathed fast.
2. He did not breathe fast. (Fever causes *breathing fast*). Therefore, he had no fever.
3. He is breathing fast. (Fever causes *breathing fast*). Therefore, he might have fever.
4. He is has no fever. (*Fever* causes breathing fast). Therefore, he may be not breathing fast.
5. You may have fever. When *I* had fever, I was breathing fast, and you are breathing fast.

These cases illustrate how different logical rules can be followed to draw a conclusion from the same semantic connection, in this case a causal relation. Cases (1) and (2) represent instantiations of defeasible axioms, i.e. the defeasible *modus ponens* (in 1), and the defeasible *modus tollens* (in 2). Cases 3 and 4 proceed from abductive reasoning. In (3) the conclusion is drawn by affirming the consequent, while in (4) the denial of the antecedent can be rephrased by

contraposition as “not breathing fast is caused by having no fever,” leading to a conclusion drawn abductively (Walton, Reed & Macagno, 2008: 173). Finally, in (5) the conclusion is based on an inductive generalization, based on a single case. The prototypical nature of the relationship between semantic relations and logical rules (types of reasoning and axioms) hides, in this sense, the lack of correspondence between these two levels. For this reason, a classification system of the argumentation schemes based on these criteria would be inaccurate. Different criteria are needed, accounting for this twofold nature of the schemes.

3. *A means-end classification*

Argumentation schemes can be conceived as the combination of semantic (or topical) relations with logical rules of inference. A classification based on the semantic link can provide an instrument for bringing to light the material relation between premises and conclusion. However, the same semantic relation can be combined with various logical rules, and lead to various types of conclusion. For example, causal relations are the ground of the argument from cause to effect, but also or arguments from sign and practical reasoning. A classification based only on the semantic content would blur these fundamental differences. For this reason, it is necessary to find an overarching classificatory principle.

Argumentation schemes can be thought of as instruments for reconstructing and building arguments (intended as discourse moves), i.e. analytical or invention tools. For this reason, in order to provide a classificatory system to retrieve and detect the needed scheme it can be useful to start from the intended purpose of an argumentation scheme. From an analytical point of view, the analysis of an argument in a discourse, a text, or dialogue presupposes a previous understanding of the communicative goal (and, therefore, the “pragmatic” meaning) of the argument and the components thereof. For example, an argument can be aimed at classifying a state of affairs, supporting the existence of a state of affairs, or influencing a decision-making process.

This teleological classification needs to be combined with a practical one, as the generic purposes of a move need to be achieved by means of an inferential passage. In this sense, the classificatory system needs to account for the possible means to achieve the pragmatic purpose of an argument. Not all the semantic (material) relations that are at the basis of the schemes can support all the possible conclusions or purposes of an argument. Definitional schemes are aimed at supporting the classification of a state of affairs, and are unlikely to lead to the

prediction or retrodiction of an event. Similarly, a pattern of reasoning based on the evaluation of the consequences of an action or an event can be used to establish the desirability of a course of action brining it about, but cannot reasonably lead to the truth or falsity (or acceptability) of a proposition. For this reason, the analysis of the pragmatic meaning (i.e. the purpose) of an argument provides a criterion for restricting the paradigm of the possible means to achieve it. The crucial problem is to find categories of argument purposes that can establish criteria for distinguishing among classes of semantic relations, which in turn can be specified further according to the means to achieve such goals.

The first distinction to be made is based on the nature of the subject matter, which can be a course of action or a state of affairs. In the first case, the goal is to support the desirability or non-desirability of an action, while in the second one the schemes are aimed at providing grounds for the acceptability of a judgment on a state of affairs. The ancient dialectical accounts (see Cicero, *Topica* and Boethius, *De Topicis Differentiis*) distinguished between two types of argumentative "means" to bear out a conclusion, i.e. the "internal" and the "external" arguments. The first ones are based on the characteristics of the subject matter (such as arguments from definition or cause), while the others derive their force from the source of the statement, i.e. from the authority of who advances the judgment or the proposal (arguments from authority). This first distinction can be represented as follows:

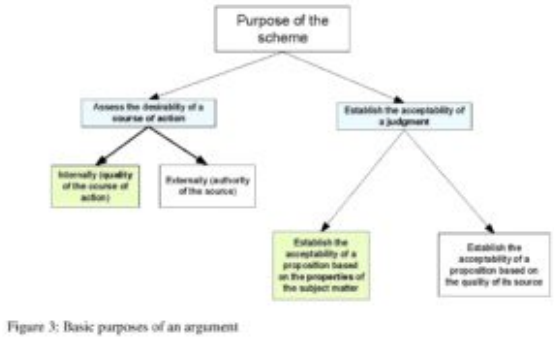

Figure 3: Basic purposes of an argument

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The acceptability of a conclusion can be supported externally in two ways. If the argument is aimed at establishing the desirability of a course of action, the authority can correspond to the role of the source needed for recommending or imposing a choice ("You should do it because he told you that!"). Otherwise, the

popular practice can be a reason for pursuing a course of action ("We should buy a bigger car. Everyone drives big cars here!"). When external arguments are used to support also a judgment on a state of affairs, the relevant quality of the source is not the speaker's authority (which is connected with the consequences of not complying with the orders/conforming to common behavior) but rather with his superior knowledge. The quality of the source can be also used negatively to show that a source is not reliable (it is not a good source), and that consequently the conclusion itself should be considered as doubtful (*ad hominem* arguments). The external arguments can be represented as follows:

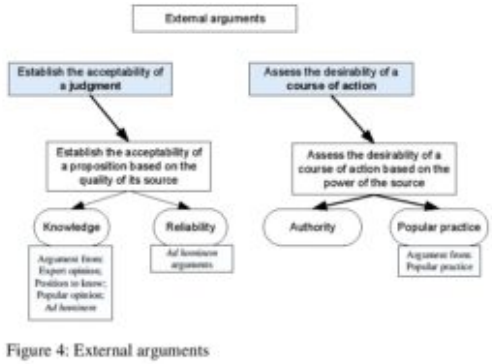

Figure 4: External arguments

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Internal arguments need to be divided into the two categories of arguments aimed at assessing the desirability of a course of action, and the ones supporting the acceptability of a judgment. Courses of action can be classified as desirable or not depending on the quality of their consequences (the course of action is a condition of a resulting positive or negative state of affairs) or their function in bringing about a desired goal (an action is productive of a pursued state of affairs):

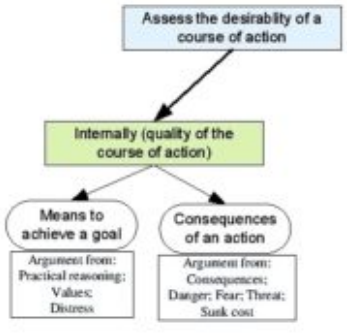

Figure 5: Internal practical arguments

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The arguments used to provide grounds for a judgment on a state of affairs can be divided according to the nature of the predicate that is to be attributed. The most basic differentiation can be traced between the predicates that attribute the existence of a state of affairs (the occurrence of an event or the existence of an entity in the present, the past, or the future), and the ones representing factual or evaluative properties. The arguments supporting a prediction or a retrodiction are aimed at establishing whether or not an event has occurred or will occur, or whether an entity was or will be present (existent). The arguments proceeding from casual relations (in particular from material and efficient causes) bear out this type of conclusion. The other type of predicates can be divided in two categories: factual judgments and value judgments. The first type of predicates can be attributed by means of reasoning from classification, grounded on descriptive (definitional) features and supporting the attribution of a categorization to an entity or an event (Bob is a man; Tom is a cat). Value judgments are classifications that are not based on definitions of categorical concepts (to be a cat) but rather on values, or rather hierarchies of values. Such judgments proceed from criteria for classifying what is commonly considered to be "good" or "bad." Also the reasoning underlying the attribution of evaluative predicates, such as "to be a criminal," can be considered as belonging to this group of arguments. These latter patterns are grounded on signs of an internal disposition of character, which in its turn is evaluated. The distinctions discussed above are summarized in figure 6 below.

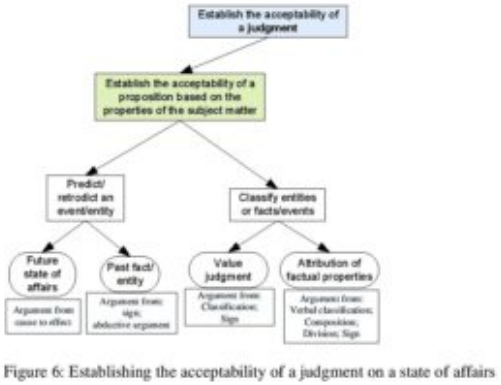

Figure 6: Establishing the acceptability of a judgment on a state of affairs

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state of affairs

This system of classification of argumentation schemes is based on the interplay between two criteria, the (pragmatic) purpose of an argument and the means to achieve it. This dichotomic model can be used both for analytical and production purposes. In the first case, the speaker's intention is reconstructed by examining the generic purpose of his move, and then the possible choices that he made to support it, based on the linguistic elements of the text (Macagno & Zavatta, 2014; Macagno & Walton, 2014, Ch. 5; Macagno & Damele, 2013). Depending on the desired level of preciseness, the analysis can be narrowed down until detecting the specific scheme, i.e. the precise combination of the semantic principle and the logical rule supporting the conclusion. In this fashion, the analyst can decide where to stop his reconstruction. This analytical model can be of help also for educational purposes, as it can be adapted to various teaching needs and levels (detecting arguments in a text; reconstructing implicit premises, etc.). For production purposes, the nature of the viewpoint to be argued for opens up specific alternative strategies to support it, which in turn can be determined by the characteristics of the conclusion.

This model relies on the analyst's or the speaker's reconstruction or awareness of the purpose of a move, which can be partially identified by taking into consideration the nature of the subject matter (whether it is a decision or a judgment). The purpose then opens up possible choices according to the generic goal of the communicative act. The speaker's intention can be further specified by detecting the most generic strategy chosen to provide a basis for the acceptability of the conclusion. In this case, in order to reconstruct the move or provide an argument, the analyst or the speaker can choose whether to use some properties of the subject matter or to appeal to an external source. In the first case, the means used to achieve the goal are determined by the nature of the subject matter. In particular, the crucial distinction is between the classification and the prediction or retrodiction of an entity or state of affairs. This choice leads to a further specification of the nature of the viewpoint that the speaker intends to support with his argument (is the event a future or a past one? is the classification a value judgment or does it consist in the attribution of factual properties?), and then to the specific means that can be used to achieve this precise purpose (argument from values, from definition, etc.). In case of decision-making, the argumentation schemes are classified according to the same

interrelation between goal and generic strategies. The internal arguments can be divided between reasoning from consequence and reasoning from means to goal.

An alternative to the internal, more complex arguments, is provided by external arguments, where the choice of backing the conclusion by means of the opinion of a knowledgeable and reliable source can be further made more specific by distinguishing between the kinds of sources (experts or the majority of people) and the nature of the support (knowledge or reliability).

The semantic relation characterizing a scheme can be "shaped" according to different types of reasoning, i.e. logical forms. For instance, the desirability of a course of action can be assessed internally by taking into consideration the means to achieve a goal. However, this pattern of reasoning can be stronger or weaker depending on whether there is only one or several alternatives. The paradigm of the possible means will determine whether the reasoning is abductive or deductive, resulting in a conclusion more or less defeasible. The same principle applies to the other semantic relations, such as the ones proceeding from cause or classification, which can be shaped logically according to inductive (or analogical), deductive, or abductive types of reasoning.

3. *Conclusion*

The classification of argumentation schemes is a problem from which their development and application depends. Given their number and complexity, their use becomes problematic without a system guiding their selection. In order to organize the schemes in a useful and accessible way, it is crucial to understand their nature and their components. Argumentation schemes are the result of a combination of two levels of abstraction: semantic (or topical) relations, and logical forms. Semantic relations provide a criterion of classifying the arguments based on the content of their major premise, and represent what makes a conclusion more *acceptable* than the premises. The logical forms (the types of reasoning and rules of inference) instantiate the rules of *acceptance*, i.e. how a premise supports a conclusion based on the relation between the antecedent and consequent, or between the quantification of the predicates in the premises and the conclusion. The possible combinations between them are extremely complex. Argumentation schemes are imperfect bridges between these two levels. They are the most frequent and common combinations that characterize the fundamental arguments used in everyday argumentation. They are incomplete abstractions, simplified and prototypical patterns that cannot be organized according to the

aforesaid semantic and logical levels.

In order to classify the schemes, it is necessary to find a criterion of classification transcending both levels of abstraction, and leading to a dichotomic system, which can be used proceeding both from the affirmation of a disjunct, and from exclusion of the alternative. The classificatory system proposed in this paper is not based on what an argument is, but rather on how it is understood and interpreted, i.e. on its communicative purpose. In this fashion, a classification system can mirror the actual practices of reconstructing and using arguments. The purpose of an argument is connected with the means to achieve it, which are determined by the ontological structure of its conclusion and its premises. On this view, it is possible to suggest a course of action, to predict an event, or to classify an entity, depending on the nature of the predicate(s) attributed in the premises that support or can be used to support the conclusion. The system of classification becomes a tree of dichotomic choices aimed at reconstructing or achieving a communicative goal.

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Evaluative And Unifying Function Of Emotions Emerging In Argumentation: Interactional And Inferential Analysis In Highly Specialized Medical Consultations Concerning The Disclosure Of A Bad News

Abstract: This paper investigates the functions of emotions in decision-making processes following the disclosure of a bad news in medical argumentation, by taking into account suggestions from psychology and argumentation. I embrace the hypothesis that emotions, due to their capability of unifying the objects of our thought, strongly contribute to reasonable decisions. I claim that a proof that hints to this can be found at the interactional as well as at the inferential level of analysis.
Keywords: Argumentum Model of Topics, bad news, decision-making processes, doctor-patient interaction, emotions, inferential structure, interactional analysis

1. *Introduction*

Emotions plays a crucial role in doctor-patient interactions, especially in case of bad news' disclosure; in such highly emotive frameworks a competent usage of emotions through communication strategies can really make the difference in improving patients' acceptability of heavy treatments and of diseases' consequences. This competence is often strongly influenced by doctors' ability to handle in an adequate way their own emotions as well as by the ability to take into account patients' possible emotive reactions. However, it is not often the case that doctors are able to reach a fruitful communication and an adequate handling of emotions, and this leads to misunderstandings and produces undesired emotive and cognitive reactions in patients. Two are the main approaches to doctor-patient interaction which can be found in literature, namely the patient-centred approach and the disease-centred approach (Bensing, 2000; Mead & Bower,

2000).

This paper aims to contribute to the study of doctor-patient interactions' dynamics by connecting existing studies in health communication and psychology with argumentation studies, in order to demonstrate the crucial role of argumentatively played out emotions. For what concerns the theoretical and methodological framework, we follow the Pragma-Dialectical approach (Eemeren van, 2004) for the interactional analysis and the Argumentum Model of Topics (henceforth AMT) for the analysis of the inferential structures of arguments (Rigotti, 2009; Rigotti & Greco Morasso, 2010).
In medical argumentation studies there is a gap in the analysis of doctors' argumentatively played out emotions, which concerns both the interactional as well as the inferential level of analysis. The reasons why doctors' emotions emerging in argumentation during this type of communicative practice have a strong influence in patients' acceptability of treatments and of disease consequences remain still unclear.

In this study I propose to combine a fine-grained argumentative and inferential analysis of doctors' experienced emotions in doctor-patient interactions concerning the disclosure of a bad news. Three are the main aims of this paper. Firstly, I set out to explore the role of doctors' argumentatively played out emotions in the management of the painful communication and of the subsequent patients' decision-making processes. Secondly, I will investigate the importance for doctors to take into consideration the possible patients' emotions and the importance of arguing in favor of them, and lastly I will prove that emotions have an evaluative and unifying function which can be retrieved in the inferential structure of arguments.

2. *Two distinct approaches to doctor-patient interaction*
First of all, the disease-centered approach reduces the relationship doctor-patient to a mere formality lacking of a human and existential value, which is on the basis of every cure strategy. It conceives the doctor as the only expert and the doctor's only focus is on the disease in itself, so that all his professional efforts and human attentions are devoted only to the cure of the disease. As a consequence of that, the patient is induced to adopt a behavior of *compliance*, that consists in obeying and adhering to doctors' decisions, preventing him from reaching an autonomous opinion (RPSGB, 1997).

On the contrary, the patient-centered approach puts the patient as a whole at the center of its interest; the doctor gives crucial importance to psychological and social conditions of the patient, taking into consideration patients' emotive dynamics and considering the consequences of emotive reactions in decision-making processes, in order to be able to better understand the actual will of the patient and subsequently to be able to better guide him in painful decisions. This is possible only caring about communicative and relational aspects between doctor and patient; adopting such an approach instead of a disease-centered approach implies a shift of focus from the cure of the disease to the care of the person, and from the *compliance* to the *concordance*, which refers to a process of knowledge power and decision sharing in doctor-patient interaction, producing a radical change of the cure's intrinsic relationship and of what every participant expects from the other. In short, adopting a patient-centered approach favoring *concordance* means considering the patient as an expert of his own illness situation and of his reaction to bad news communication and treatment (RPSGB, 1997).

For the purposes of this study, which combines studies from communication, psychology and argumentation theory, it is interesting to notice the semantic foundations of the distinction of these two approaches; indeed, also a semantic analysis of the two verbs *to cure of* and *to care for,* respectively representing the disease-centered approach and the patient-centered approach, lays stress on the different perspective given to the medical communication by the adoption of these two types of approaches. In order to highlight this distinction, I analyzed these verbs following an approach known as Congruity Theory (Rigotti & Rocci, 2001; Rocci, 2005). This theory starts from the assumption that a whole argumentation is based on a conceptual structure, proceeding from relations to concepts, and therefore the analysis of argumentation presupposes the analysis of concepts, that is the semantic analysis. In short, this theory provides the necessary and conceptual instruments necessary to tackle both the semantic and the pragmatic aspect of discourse. More specifically, the meaningfulness of the units that make up the nodes of discourses is accounted for semantically in terms of predicate-argument frames, where predicates impose presuppositions to their arguments places and licenses semantic entailments. The semantic analysis of the two verbs *to cure of* and *to care for* is shown in Table 1.

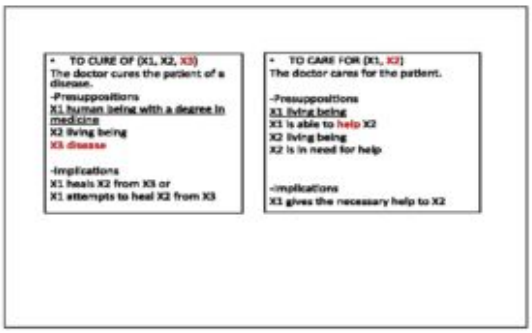

Table 1. Semantic analysis of the verbs "to cure of" and "to care for".

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The verb *to cure of* presupposes that X1 is a human being with a degree in medicine, that X2 is a living being and that X3 is a disease. The subsequent entailments are that X1 heals X2 from X3 or that X1 attempts to heal X2 from X3. Here the verb is clearly bound to the concept of disease, where the focus is on the disease *per se*. On the contrary, the verb *to care for* presupposes as first argument a living being, that is able to help X2, and furthermore it presupposes that is X2 is a living being, who is in need for help, where the entailment is that X1 gives the necessary help to X2. This verb perspective is related to the concept of illness, and here the focus is on the fact of being ill of a person in his whole and uniqueness.

3. *Emotions emerging in argumentative doctor-patient interactions*

It is in this scenario that I propose to consider emotions emerging in argumentative doctor-patient interactions as able to strongly influence the modality of communicative approach adopted, and strongly determine an adequate or inadequate management of the painful disclosure of a bad news, such as the communication of the impossibility to surgically intervene in pancreatic cancer (for more details see the case study in Section 5).

I will refer to emotions as they are conceived according to the modern theories of emotions in social psychology and psychology of emotions; the central core of these theoretical frameworks is based on the assumption that emotions are rational, so that they are conceived as a useful mean to reach reasonable decisions, as stated also by the neuroscientist A. Damasio (Damasio, 1994; Damasio, 1999).

However, it is only when one is aware of his own emotions that can inhibit an

action prompted by them (Lambie, 2008; Lambie 2009). I embrace this hypothesis that in order to make a reasonable choice, one should be aware of his own emotions. Nevertheless, one step further still needs to be done; I claim that emotions' awareness is strongly played out argumentatively. Furthermore, in support of this claim, I take into consideration the research trend "emotions, rationality and decision" (Lambie & Marcel, 2002) according to which every-medium and long-term goal must undergo to review according to deliberative rationality, which often takes place in argumentation, and this process is strongly influenced by aware emotions.

4. *Corpus and methodology*

Concerning the corpus, data were collected at the highly specialized practice of oncologic pancreatic surgery at the Hospital of Verona (Italy), where patients arrive after a diagnostic day-hospital. In order to support the main claim of the paper, namely that the awareness of doctors' emotions and the consideration of patients' expected emotive reactions emerging in argumentation strongly influence the final outcome of the medical consultation, data were collected looking at the threefold perspective of the doctor-patient interaction, of the doctor-psychologist interaction, and of the patient-psychologist interaction. Indeed, data consist of audio-recordings of 15 doctor-patient interactions concerning the moment of the disclosure of the bad news of the impossibility to surgically intervene, of 15 doctor-psychologist interactions about doctor's emotive resonance after the communication of the news, and finally of 15 patients-psychologist interactions about the emotive reactions after the news communication and the impressions about the way in which the doctor managed the painful communication. The first type of data permitted an in-depth analysis of argumentative dynamics, whereas the second and the third type of data permitted to have a confirm of the claim through a retrospective clue.

The methodology used for the reconstruction of argumentative structures at the interactional level follows Pragma-Dialectics, whereas for the analysis of the inferential structure of arguments I use the approach known as Argumentum Model of Topics (Rigotti & Greco Morasso, 2010).

5. *A case study: highly specialized medical consultation after a diagnose-oriented day-hospital as a peculiar activity type*

According to Van Eemeren stating that "the various communicative activity types are empirical conceptualizations of conventionalized communicative practices"

(Eemeren van, 2010, p. 145), I propose to conceive the "highly specialized medical consultation after a diagnose-oriented day hospital" as a peculiar activity type with its own specific characteristics and purposes, resulting in an activity type, which is clearly different from the other types of medical consultations. With reference to this, in inoperable oncologic patients, we can identify three stages of this peculiar activity type, namely the stage of the communication of the impossibility to surgically intervene, the stage of the communication of the need to do a chemotherapy and the phase of the choice of the most suitable chemotherapy. A peculiarity of this activity type can be identified in the fact that when patients arrive to the consultation, it is the second time that patients see the doctor (patients met the doctor during the day-hospital), so that the stage of the patient examination and clinic history has already been made during the day-hospital.
Furthermore, it is important to notice that the communication of the impossibility to surgically intervene represents a very highly emotive interaction due to the painful communication of the bad news disclosure referring to the impossibility of an effective cure.

In order to carry out the main aim of the study, the features of the phases of the two distinct types of interactional approaches in managing the communication in this activity type were identified. On the one hand, concerning the patient-centered approach, we can find the following features; patients' awareness degree concerning illness' construal is ascertained, the bad news communication of the impossibility to do a curative surgical intervention follows, and lastly the most suitable treatment is discussed and negotiated, so that patients' opinion is taken into account and is endorsed. In this interactional approach doctors show a great ability to argue and to use emotions in argumentations as well as to show an empathic behavior. On the contrary, the features characterizing the disease-centered approach are the following; patients' awareness degree concerning the disease is not ascertained, bad news communication follows, and the most suitable treatment is given as a factual data, without discussion and negotiation. We observe in the best cases the presence of an only poor argumentation, and emotions, both of the doctor and of the patient, are not taken into consideration.

5.1 *Patient-centeredness: an argumentative analysis*
In what follows I will show three argumentative reconstructions pertaining to a patient-centered interaction; the first one shows the standpoint of a patient after

that the doctor has communicated him the impossibility of the surgical intervention at the moment, the second one shows the doctor's standpoint after the communication of the bad news, and the third one shows the doctor's standpoint during the phase of the choice of the most suitable treatment.

In the first argumentative reconstruction the standpoint of the patient "I want to do the surgical intervention now" is supported by the argument of analogy "when I had breast cancer the doctors did the surgical intervention before doing chemotherapy" and by two emotive arguments "I fear that if we wait with the intervention other cancer cells could spread in other organs" and "I fear that if we wait with the intervention the cancer could become bigger", as shown in table 2:

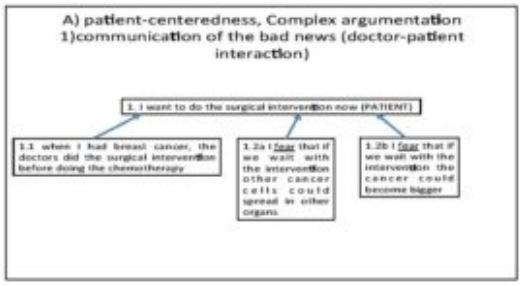

Table 2. Argumentative reconstruction of the patients' argumentation.

In what follows I will illustrate the argumentative reconstruction of the doctor's argumentation; the standpoint "our advice is to do a chemotherapy before doing a surgical intervention" is justified by four argumentative lines, as we can see in table 3: the first argues about the danger of doing a surgical intervention at the present moment, the second argues about the utility to do a chemotherapy before the surgical operation, and the third acts on emotions. On the one hand the assertion that doctors want the best cure for the patient is justified by 1.3.1, and in the last analysis by 1.3.1.1. On the other hand the argument that doctors want the best cure for the patient is justified by the subordinate argument 1.3.2, where we can observe an empathic behavior. Finally the fourth argumentative line, brings reasons in favor of the impossibility to do the surgical intervention at the present moment.

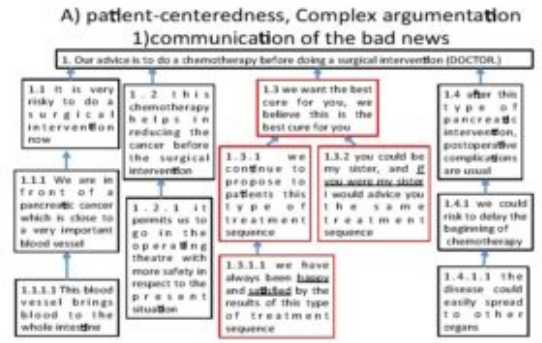

Table 3. Argumentative reconstruction of the doctor's standpoint.

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Finally, in the last phase, namely that of the choice of the most suitable treatment, the doctor's standpoint is "I advice a type of aggressive chemotherapy called Folfirinox even though it has many side effects". In order to justify the importance of doing this aggressive treatment, the doctor proposes three argumentative lines; the last one lays stress on the doctor's consciousness of the emotive state of the patient, which attempts to make the argument more acceptable for the patient, as we can see in table 4.

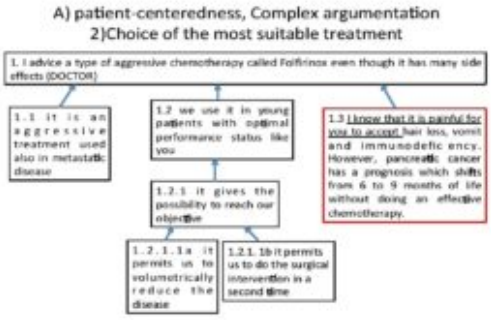

Table 4. Argumentative reconstruction of the doctor's standpoint.

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The analysis of a patient-centered medical interaction based on the awareness of doctor's emotions and of the patient's possible emotive reactions as well as on an

empathic behavior demonstrates that emotions emerging in argumentation play an important role in supporting patients in bad news disclosure as well as in guiding patients about the decision making process of treatment choices; in this framework the most important criterion are patients' preferences. Such kind of interactions favor a shared decision making process

aimed at reaching a treatment on which both physician and patient agree, by discussing the pros and cons of possible treatment options in such a way that the views of both parties are taken into account
as stated by F. Snoek Henkemans (Snoek Henkemans, 2012, p. 30). Furthermore they enable
a reasoned compliance of the patient, where the patient takes a certain course of action advised by a doctor because she has understood and believes in the inner motivations behind it
as stated by Rubinelli and Schulz (Rubinelli & Schulz, 2006, p. 357). What is more, this approach permits to support the emotive involvement of the patient during the bad news disclosure as well as during the decision-making process of the treatment choice.

We can find a confirm of these statements from a retrospective clue in the doctor-psychologist interaction about the doctor's emotions during the bad news communication, as we can see from the excerpt below;
(1)
Ps: how did you feel during the communication of this bad news?
D: I felt at ease because I had already introduced the discussion about a possible cancer during the previous visit..
Ps: what emotions do you feel now?
D: I must admit that sometimes I feel very sad in communicating the bad news, when patients have the same age of me, as in this case… I sometimes empathize

The importance of emotions' awareness is confirmed by the evidence of the fact that the doctor is aware of his own emotions and succeeds in an empathic behavior.

We find another confirm of the importance of argumentation from another retrospective clue in the psychologist-patient interaction about the outcome and impressions of the bad news communication after the consultation, as we can see from the excerpt below;

(2)
Ps: and did you understand why it is important to do chemotherapy before the surgical intervention?
P: yes I understood that doing chemotherapy is important in order to let the cancer decrease and to do the surgical intervention in a second moment
Ps: was it important for you to hear about this?
P: Yes the doctor was very clear in clarifying many aspects of my disease and of the cure the exams confirmed the presence of a carcinoma however nobody told us why it was important to do chemotherapy first and wait with the surgical intervention

5.2 *Disease-centredness: doctors disregarding their own emotions and patients' emotive reactions*

In order to highlight the potential benefits of the patient-centered approach, I will hereby illustrate the inadequacy of the disease-centered approach: we will show some excerpts in which it is evident that the doctor does not argue in favor of his standpoint, and that this causes misunderstandings in the communication, because the patient does not understand the actual situation and does not have the possibility to ask for questions and remarks, as stated also by S. Bigi (Bigi, 2012). Furthermore, the doctor does not take into consideration the possible emotive reactions of the patient and this clearly contributes to misunderstandings. It is remarkable the case of a patient that did not want to do the surgical intervention after chemotherapy because she did not understand that it was the most effective cure. The day after the consultation the patient came back for another consultation because she did not want to do the surgical intervention after chemotherapy and she was confused about the therapeutic approach to follow, as we can see from the excerpt below;
3)
P: Yesterday I asked you if it was possible to avoid the surgical intervention and you answered me that I absolutely need to do this intervention, without explaining me why.

Then, the patient goes on arguing why she did not want to do the surgical intervention, and the doctor answers "I only wish you that we meet in the operation theatre", as we can see from the excerpt below;
(4)
P: I read that when the cancer is in the pancreas tail, after chemotherapy the

cancer may disappear and so I may avoid the surgical intervention
D: I told you yesterday the answer is no. After chemotherapy you must do the surgical intervention.
I only wish you that we meet in the operation theatre.
P: but why?
D: because you may not be candidate to the surgical intervention and then continue with chemotherapy/ the surgical intervention is unavoidable it is the best solution because continuing with chemotherapy is not effective/ the disease could spread in other organs
P: if you wish me that I will be able to do the surgical intervention, then I wish it also myself

The patient asks for reasons and the doctor argues that the patient could not be candidate to the surgical intervention and then continue with chemotherapy, that it is not the best solution because continuing with chemotherapy is not effective. Here we observe a shift in the patient's reasoning, after an even poor argumentation, which however hints at an empathic response.

Concluding, we can observe that no argumentation or poor argumentation which does not consider doctors' emotions as well as possible patients' emotive reactions and which disregards empathy produces misunderstandings and difficulties in accepting diseases' consequences and treatments. In such a framework, the most important criterion seems to be identifiable in medical evidence, and we observe an unilateral aprioristic decision-making process, where the patient is in passive condition and the doctor decides alone for the patient.

Even in this case we show a confirm of this dis-functional type of interaction from a retrospective clue, namely from the doctor-psychologist interaction about the doctor's emotions during the bad news communication. The doctor is not aware of his own emotions and is not empathic;
(5)
Ps: the idea to communicate this type of news is painful for you?
D: No, I don't have any emotive resonance.
Ps: Are you sure? It is impossible.. Are you released?
D: Yes, I am sure. I have already removed the content of the communication.. I do this every day.. I think that this is a sort of defense

We can retrieve another retrospective clue of the importance of an even only poor argumentation hinting at emotions in the patient-psychologist retrospective interaction, as we can see from the excerpt below;
(6)
Ps: do you think the doctor was clearer today in explaining you the clinical situation?
P: Yes today he was clearer and more human… however, yesterday I was very upset about the fact that he wished me to go in the operation theatre.
Ps: probably you were upset yesterday because the doctor wasn't clear in explaining the reasons of the fact that he wished you to go in the operation theatre. Because if you don't do the surgical intervention the cure would be only a half cure. Because the best cure consists of chemotherapy and intervention. Because continuing with chemotherapy wouldn't be effective.
P: Yes now I understand that I must do the intervention and this is all I wish myself.

6. *Emotions at the inferential level: the interweaving of psychology and argumentation*

Until now this paper focussed on the interactional analysis; however, in order to prove the crucial role of doctors' emotions in patients' reasonable decisions, it is necessary to make a more in-depth analysis and to investigate the inferential structure of arguments.

First of all, we need to introduce the theoretical foundations of emotions conceived as evaluative and unifying devices able to connect one argument to its standpoint. Social psychology has argued in favour of the reasonableness of emotions since W. James, who argued that feelings individualize knowledge, telling us how a thing is in conjunction with us, and that feelings unify knowledge, being able to connect past events deriving from our expectations and desires (James, 1884; James, 1890).
In more recent time, the famous neuroscientist A. Damasio reevaluated the Jamesian theory, and lays stress on the necessity of taking into consideration the analysis James made of the "internal world", in order to shed light on that unified mental configuration which unifies the "objects of the Self" (Damasio, 1999); the central core of his theory concerns the mental evaluation of the situation which determined the emotion.

In this paper I propose that an analysis of the inferential structure of arguments

following the approach known as Argumentum Model of Topics (Rigotti & Greco Morasso, 2010) offers a proof of the evaluative and unifying function of emotions as conceived by psychological theories.

The AMT aims at proposing a coherent and founded approach to the study of argument schemes, which can overcome several emerging difficulties, yet being in line with previous achievements on this aspect. In general, modern authors conceive of argument schemes as the bearing structure that connects the premises to the standpoint or conclusion in a piece of real argumentation. In the AMT, the argument scheme combines a procedural (universal and abstract) component, in which an inferential connection (maxim) is activated, with a material component, guaranteeing for the applicability of the maxim to the actual situation considered in the argument (Rigotti & Greco Morasso, 2010). For space reasons, we will focus only on the material component; in the AMT the material component is made up of two components, namely the *endoxon* and the *datum*. *Endoxa* are conceived as "opinions that are accepted by everyone or by the majority, or by the wise men (all of them or the majority, or by the most illustrious of them)" as conceived by Aristotle (Topics 100b, 21). With reference to the datum, it concerns statements that are peculiar pieces of information, concrete facts emerging in the argumentative situation. It is in this framework that I will propose to consider the relevance of emotive *endoxa* and emotive *data*.

The single argumentation that I will investigate deals with the doctor's argumentation at the stage "communication of the bad news" of the activity type. The doctor's standpoint is "Our advice is to do a chemotherapy before doing a surgical intervention", motivated by the argument "1.1 We want the best cure for you, we believe this is the best cure for you", which is in turn supported by two compound arguments: according to the taxonomy of *loci* the first one can be classified as a *locus from all the more*, "1.1.1a You could be my sister and if you were my sister I would advice you the same treatment", and the second one as a *locus from termination and setting up,* namely "1.1.1b since years we continue to propose this treatment sequence to patients" because "1.1.1b.1 we have always been satisfied by this type of treatment sequence".

I believe that AMT gives the chance to retrieve the evaluative and unifying function of emotions, integrating emotion and cognition in a unified mental configuration; the emotive and the cognitive component of the reasoning process are respectively retrievable in the material and in the procedural component of

the argument scheme resulting in the final conclusion when the decision is achieved.

A careful analysis of the *locus from all the more* through the Y-structure permits to observe the presence of an emotive *endoxon* and of an emotive *datum* in the material component. The conjunction of the *endoxon* and of the emotive *datum* creates an inferential effect leading to the first conclusion, which is strongly emotionally determined; the first conclusion that is obtained from the material starting point is equally exploited by the procedural starting point. This point of intersection is crucial in the AMT, indeed it represents the junction between the material and the procedural starting points, and within this work the interweaving between the emotive and the cognitive components. This conclusion perfectly meets the conditions established by the maxim and, conjoined with it allows inferring the standpoint "This cure is recommended for the patient", as shown in Table 5.

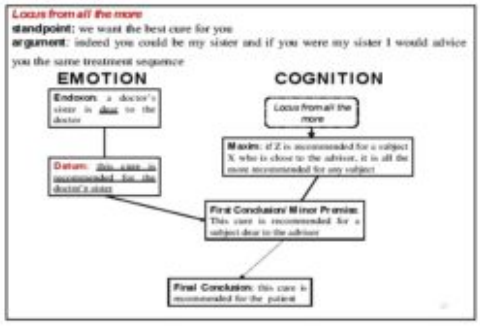

Table 5. Inferential analysis: *locus* from all the more.

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With reference to the *locus from termination and setting up*, I will analyse the single argumentation "we continue to propose this type of treatment sequence to patients" because "we have always been satisfied by this type of treatment sequence"; again, the emotive and the cognitive component of the reasoning process are respecively retrievable in the material and in the procedural component of the argument scheme resulting in the final conclusion when the decision is achieved. Again, from the analysis of this Y-structure we can observe in the material component the presence of an emotive *endoxon* and of an emotive *datum.* The conjunction of the *endoxon* and of the *datum* creates an inferential effect leading to the first conclusion "doctors should not terminate to propose this

type of treatment sequence". Again, this conclusion perfectly meets the conditions established by the maxim and, conjoined with it allows inferring the doctor's standpoint.

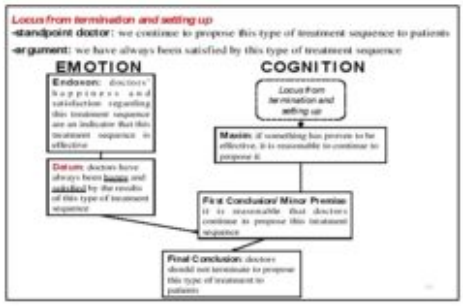

Table 6. Inferential analysis: *locus* from termination and setting up.

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7. *Conclusion*

With this paper, I have contributed to the current debate on the importance of adopting a patient-centred approach in highly emotive medical communicative situations such as highly specialized medical consultations; for this purpose, I proved the crucial importance of argumentation and of argumentatively played out emotions.

Firstly, I have shown the importance of the awareness of doctors' argumentatively played out emotions in the optimization of the management of the painful communication, in tracing a particular and an effective path in decision-making processes of the patient and in helping the acceptance of the disease's consequences in terms of both treatments and prognosis.

Secondly, I have shed light on the necessity of taking into account patients' emotions and possible emotive reactions, in order to manage an optimal painful communication and to favour the acceptability of doctors' arguments in the patient.

Thirdly, I have shown that the AMT approach gives us the chance to retrieve the evaluative and unifying function of emotions in the inferential structure of arguments, as conceived by psychological theories, integrating emotions (conceived as processes of cognitive evaluation) and cognition in the reasoning process, reflecting a unified mental configuration.

However, much remains to be done, and future work should be devoted to better

analyse the relationship between doctors' empathy and arguments' acceptability for patients. At the inferential level, the correlation between empathy and locus from all the more should be deepened also with a quantitative study.
On the other hand, the role played out by patients' emotions should be emphasized and investigated more in depth; the relationship between patients' argumentatively played out emotions and their standpoint may lead us to better understand some defense dynamics leading to the refutation of doctors' standpoints for instance, aiming at finding out if a correlation exists between patients' experienced emotions and the acceptability of doctors' argumentation.

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ISSA Proceedings 2014 ~ Practical Reasoning And Multi-Party Deliberation: The Best, The Good Enough And The Necessary

Abstract: In this paper, I elaborate the complex scheme of practical reasoning by proposing its context-independent and context-dependent elements. Further, I focus on its means-goal premise ("We should do X, because X leads to Y, and Y is desirable"). I argue that the practical inference can be licenced in three basic ways: when "X leads to" signifies a necessary means, the best means or the means that is good enough.
Keywords: argumentation schemes, inference licence, optimising, practical reasoning, satisficing

We deliberate not about ends but about what contributes to ends. […] Having set the end [deliberators] consider how and by what means it is to be attained; and if it seems to be produced by several means they consider by which it is most easily and best produced. (Aristotle, Nicomachean Ethics, 1112b12-15)

One's choice is rational only if one did not recognize clearly better reasons for choosing any of one's forgone alternatives. (Schmidtz, 1995, p. 38)

1. *Introduction*
Practical reasoning (PR) is reasoning about what (to intent) to do, as opposed to theoretical reasoning, reasoning about what (to believe) is the case. When

expressed in language, PR takes the form of practical argumentation (PA), which has been analysed as a separate argument scheme with its own set of premises, inference rules and critical questions (e.g. Fairclough & Fairclough, 2012; Feteris, 2002; Ihnen Jory, 2012; Walton, 2006; 2007).**[i]**

In this paper, I propose a detailed scheme of complex PA which, while building on previous proposals (esp. Fairclough & Fairclough, 2012), clearly lays out the context-independent and context-dependent elements of PA. I elaborate the scheme by focusing in particular on its causal or means-goal premise ("Let's do X, *because X leads to Y*, and Y is desirable"). This premise is crucial, as it points to an inference licencing our step from the premises to the conclusion that X is the reasoned action to be taken. I will argue that in principle, when acting rationally, we are licensed to do three things: the best thing, the thing good enough or the necessary thing. Which of the three applies (and whether it obtains) is determined contextually in deliberation with others who might suggest alternative options. In this way, we end up with a multi-party deliberation where different alternative options are advocated by different parties to argumentation.

2. *Practical reasoning as practical argumentation*

Aristotle is credited with providing one of the first methodical accounts of PR and deliberation. It has been argued that he was deliberately vague on the distinction between private (internal) and public (collective) deliberation as chief activities of practical reason, in order to expose "a deep analogy between his conceptions of the two domains" (Dascal, 2005, p. 52). Indeed, the limits of private PR can be overcome or reduced by engaging others: "We call in others to aid us in deliberation on important questions, distrusting ourselves as not being equal to deciding" (*Nicomachean Ethics*, 1112b11).

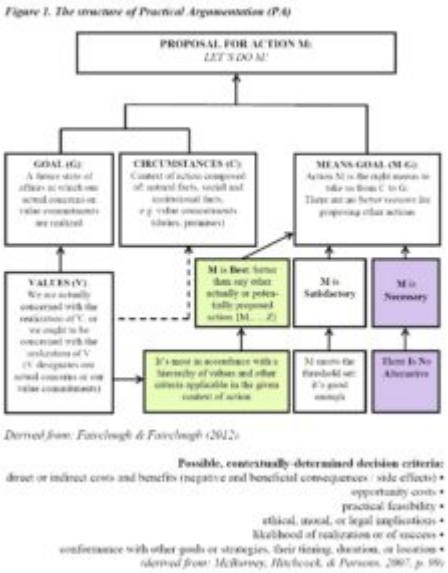
Perelman & Olbrechts-Tyteca take up these arguments and claim not only simple similarity between public and private deliberation but rather primacy of the former over the latter:

[…] inward deliberation […] appears to be constructed on the model of deliberation with others. Hence, we must expect to find carried over to this inner deliberation most of the problems associated with the conditions necessary for discussion with others. […] Accordingly, from our point of view, it is by analyzing argumentation addressed to others that we can best understand self-deliberation, and not vice versa. (1969, pp. 14, 41)

Following this tradition, I take an externalist view, where practical reasoning (PR) is in fact practical argumentation (PA) in both a descriptive and normative sense. Using O'Keefe's (1977) distinction, one can say that PA is a product (argument1) of an argumentative process or activity (argument2) of deliberation. Chief tasks of deliberators such as determining the "most easily and best produced" means (*Nicomachean Ethics*, 1112b15) and "recognizing better reasons" (Schmidtz, 1995, p. 38) are intersubjective and discursive achievements, rather than subjective and mental ones. And such are the evaluative standards – as captured in dialectical procedures for critically testing the reasonableness of practical arguments (Walton, 2006; 2007). This seems an adequate account given that many intrinsic elements of PA – values, norms, obligations – are collectively constructed and sanctioned, thus making up external reasons for action, often independent from an agent's desires or intentions (Searle, 2001; Fairclough & Fairclough, 2012). Overall, as convincingly argued by Hitchcock (2002), an externalist argumentative approach takes us away from the perils of "solipsistic, egoistic and antisocial" accounts of individual PR.

3. *Detailed scheme of practical argumentation*

The scheme of PA presented in Figure 1 stems from a rich literature on practical argument in philosophy and argumentation theory (see Lewiński, 2014, for a more detailed discussion). In particular, it is derived from a recent comprehensive account of PA by Fairclough and Fairclough (2012). While referring to their work for an in-depth analysis of all the premises constituting the scheme (*Circumstances, Goal, Values*), I will briefly mention four basic advantages of the scheme, focussing further on the last two, and especially on the Means-Goal premise.



First, the scheme shapes the framework of relevance for (multi-party) deliberation. Typically, different parties argue for the contextual betterness of their proposals for action {M, N, O… Z} (see the "M is Best" box). Their deliberation develops then as an *argumentative polylogue* (Lewiński & Aakhus, 2014) along the lines of possible disagreements over the various elements of the structure (basic premises, inference rules and contextual criteria).

Second, the scheme distinguishes between context-independent and context-dependent elements of PA. Its basic general structure (as per Fairclough & Fairclough: all the white boxes in Figure 1) remains constant, while contextual criteria for choosing "the right means" (below the diagram) fluctuate. This corresponds to the pragma-dialectical distinction between "the general" and "specific soundness conditions" for various "modes of strategic manoeuvring" (van Eemeren, 2010, Chs. 7, 10).

Third, the scheme clarifies the notion of the means-goal premise.
Fourth, it provides a new account of how to criticize and evaluate PA.
I will now discuss in detail these last two points.

4. *The means-goal premise and inference licence*

Let me start by showing that the simplest formulation of the scheme of PA does not really work. Philosophers and argumentation scholars alike are eager to follow elegant simplicity and claim that "[f]ully spelt out and made explicit, correct [practical] reasoning" (Broome, 2013, p. 260; see Feteris, 2002; Lewiński, 2014) looks more or less like that:

Let's do X! – (Conclusion)
because
X leads to Y. – (Means-Goal premise)
and
Y is our desired goal. – (Goal premise)

That this scheme does not quite capture the rationality of PA can be shown by producing arguments that clearly follow the scheme but are not so clearly rational:
Let's stop feeding our children!
because
This will save us lots of money.
and
We really need to start saving.

Here, from acceptable premises (the Goal of saving money is morally acceptable; the *Means-Goal* relation between stopping feeding children and saving money is technically speaking correct in many contexts) we get a highly objectionable conclusion. That means that there is a problem with the validity of the practical inference drawn here – and in the simple scheme presented above in general. What is missing is the "inference licence" regarding the quality of the link between the desired goal (premise) and the proposed means of action (conclusion).**[ii]** The Means-Goal inference needs to be thickened beyond asserting simple causality. This, of course, has already been done, but not quite completely. The obvious question to be asked is: "What does it mean that 'X leads to Y'"?

The most common answer is that X is a means *necessary* to get to Y. An often quoted Kantian passage captures the rationale for that: "Who wills the end, wills (so far as reason has a decisive influence on his actions) also the means which are indispensably necessary and in his power" (Kant, *Groundwork of the Metaphysics of Morals*, pp. 80-81; cited in Broome, 2013, p. 159). Indeed, the necessity of means is typically considered the paradigmatic type of inference licence in practical reason (Broome, 2002; 2013; Walton, 2007). It is appealing, most notably, because it makes the practical inference valid by standards of classic deductive logic: the "only if X then Y" conditional expressing necessity (formally: $Y \rightarrow X$), allows to construct the inference as *modus ponens*:

Y (*Goal* premise)
Y → X (*Means*-Goal premise)

_____

X (*Conclusion*)

Others, however, object to the idea that reasoning from necessary means provides a paradigm of PR:
If you think about this pattern in terms of real life examples it seems quite out of the question as a general account of practical reason. In general there are lots of means, many of them ridiculous, to achieve any end; and in the rare case where there is only one means, it may be so absurd as to be out of the question altogether. (Searle, 2001, pp. 244-245)

Nevertheless, there surely are cases where arguers build their practical inferences by claiming the necessity of means to be taken, not least in politics where we often hear that "the only way" to fight financial crisis/terrorism/corruption/climate change is *X* (see Fairclough & Fairclough, 2012; Ihnen Jory, 2012). Before I move to discussing other than necessary, and thus more realistic, cases of PA, let me distinguish between three levels of necessity an arguer might appeal to (Lewiński, 2014, p. 5):
a. *conceptual (analytic) necessity* (or at least a priori synthetic) determined by the very meaning of the formulated end: "If I want to present at ISSA, then I need to be in Amsterdam in early July."

b. *de iure (conventional) necessity* determined by some legal regulations, which may vary across people/countries/regions: "If I want to present at ISSA, then I need to pay the conference fees."
Note that it is not "indispensably necessary" across the board – it does not apply to those who help organizing ISSA, invited speakers, etc.

c. *de facto (practical) necessity* determined for different arguers by contextual factors:
"If I want to present at ISSA, then I need to start saving a year in advance."
vs.
"If I want to present at ISSA, then I need to fill out a travel subsidy form."

Necessity of means, by definition, excludes consideration of alternative options – an issue which seems to be confused in Walton's (2007) account.**[iii]** Whenever

we find a certain action necessary to reach our goal, then (recall Kant) we should take this action. Alternatively, if the action is necessary yet objectionable on some other grounds, we should abandon our goal (if the only way to get to Amsterdam is to kill my colleagues competing for travel subsidies, I should rather forget about ISSA).

In most cases, however, our goal "seems to be produced by several means" (*Nicomachean Ethics,* 1112b15). The fact that the goal is "produced" by one means or another, suggests that we consider *sufficient,* rather than necessary, means. This is an equally recognised form of PA (see Walton, 2007). Sufficient means, while closer to life than strict necessities, generate two serious problems for PA. First, argumentation from sufficient means is logically invalid, as it instantiates the fallacious pattern of affirming the consequent: If we implement the sufficient means X, then we "produce" our goal Y. And since we intend to produce Y, we should implement X. Formally:
Y (*Goal premise*)
X → Y (*Means-Goal premise*)

_____
X (*Conclusion*)

Second, whenever we face a set of options consisting of several mutually exclusive sufficient means, we need to find a way of concluding our reasoning by selecting one of them based on some sort of a criterion. Consider a situation when two colleagues in Lisbon, Portugal, have just been notified their papers were accepted for the ISSA conference (*Circumstances*). Their Goal is to get to Amsterdam the day the conference starts. A sufficient action would be one that takes them from current *Circumstances* to the intended Goal. They consider the following set of such actions:
a. "Let's get in a kayak and start rowing: with good seas we'll make it by July 1."
b. "Let's book a direct KLM flight for € 300, departing from Lisbon on July 1."
c. "Let's book a direct TAP Portugal flight for € 200, departing from Lisbon on".
d. July 1."

Here, option a) would surely count among Searle's "ridiculous" means. As for choosing between b) and c) there is clearly some financial incentive, possibly enforced by the university, to go for option c) – it's considerably cheaper with negligible differences in all other respects (let us assume). If this is so, choosing anything other than c) would be suspicious in terms of rationality of the

conclusion. While this is pretty commonsensical, it comes at a certain philosophical cost. According to Searle, it requires, in our PR, "to introduce a fishy-sounding premise, about wanting to do things 'by the best way all things considered'" (2001, p. 247). This premise, on Searle's account, amends PR from sufficient means so that it is not logically fallacious anymore (see 2001, pp. 246-247). Yet, it remains fishy for someone who looks for a "deductive logic of practical reason" for at least two reasons: considerations of bestness are not logical considerations, and, by the way, what are they? ("What is meant by 'the best way,' and what is meant by 'all things considered'?", Searle, 2001, p. 247.)

Searle, however, might be guilty of pushing on PR the "hard" rationality of deductive logic which is inadequate for a form of reasoning driven by the "soft" rationality of merely plausible and thus inherently defeasible inferences (Dascal, 2005). This "soft" rationality requires a dialectical and informal model of argumentation based on the balance of considerations rather than apodictic inference.**[iv]** On such a model the concept of "better reasons" or "the best way" becomes intelligible and remains connected to the requirements of rationality. Following Schmidtz, "one's choice is rational only if one did not recognize clearly better reasons for choosing any of one's forgone alternatives" (1995, p. 38). This, in fact, seems to be the main inference licence in PR, and not only when a set of alternative (ergo: other than necessary) means is considered (see the *Means-Goal* premise in Figure 1).

As mentioned above in section 2, the task of "recognizing better reasons" is understood here as an intersubjective achievement of arguers engaged in deliberation over what to do, or in PA. On this reading, one is irrational if a clearly better reason was uttered by one of the parties and subsequently dismissed. But why do we need such an inference licence and what does it mean?

First, Schmidtz's formulation is cleverly negative: "no better reasons". This allows to include the necessary means under the inference licence (one cannot argue for a "better necessary" means, contrary to Walton's (2007) conditions), as well as Buridan cases (when facing two equally good options, we are rational by choosing *either* of them). Second, it has direct application to the cases of alternative options discussed here. Despite Searle's worries, there is a long tradition in practical philosophy of investigating what "the best way" might be. Briefly, when reasoning or arguing over the best *Means* to produce our *Goals*, we can licence our inference through one of the two basic strategies (see Byron, 1998, 2004):

A. Going for "the best": *optimising / maximising*. What "the best" is, is typically contextually determined, sometimes loosely (when deciding on the best place to take summer holidays), sometimes in a very strict, administratively defined way (when deciding on the best public procurement offer, or best job or grant application). While the general criteria or parameters for selecting the best course of action can be suggested (see the bottom of Figure 1, also: Hitchcock, 2011; McBurney et al., 2007), their exact set, scope, precision and weight depend on the context and cannot be pre-defined. Therefore, they constitute the fluctuating conditions in the scheme of PA. One can, however, distinguish between simple and subtle optimising:
i. *Simple optimising* applies when deliberators deal with a "static context", that is, when the set of alternative options (means of action) is finite and known (Byron, 1998): we should simply take the best dessert from the list. This requires that the issue is phrased through an *alternative question* ("Do we take tiramisu, crème brûlée, or ice-cream?"; see Biezma & Rawlins, 2012) or a *safe Wh-question* ("Which of desserts on the list do we take?"; see Hamblin, 1970, p. 216).
ii. *Subtle* optimising takes place when we are facing an ever-changing "dynamic context" in which the set of options is open-ended and constantly updated (Byron, 1998), a common situation when selling a house: shall we accept € 100.000 or wait for a better offer? What better offers can we get? Such risky questions (Hamblin, 1970, p. 216) call for an on-going calculation of costs and benefits under uncertainty (e.g., it's retrospectively irrational to spend € 10.000 and lots of time to get an offer that is € 5.000 better).

B. Going for the "good enough": *satisficing* by setting a threshold which will fulfil our basic criteria: e.g., "any offer equal to or higher than € 100.000 is a good deal and we should accept it." This, of course, is not the "best way all things considered" but it is an important and reasonable way to licence conclusions of our PA under many typical circumstances (assuming, of course, the we set the right threshold, which opens another fascinating theoretical issue lying, for instance, at the very foundation of economics):
i. In dynamic contexts, satisficing lets us "economise" on resource-intensive subtle optimising, which requires constant updates and cost-benefit analysis.
ii. In static contexts, it allows for global optimisation by letting us being somewhat "easy" on less important local results: "Yes, I can jog 3hrs a day for optimal fitness but 30min is good enough in the bigger scheme of things."

In these ways, satisficing also falls under the "no better reasons" principle. In dynamic contexts, we (so far) have no better option than the one which first meets the threshold (the € 120.000 offer is not quite in yet and might never be). In static contexts, while locally merely satisficing, we might be optimising in terms of the bigger plan: one might be better off jogging for 30min only, and then reading a book for 2h30min, than jogging for 3hrs and completely giving up the book.**[v]**

The basic inference licence in PA is then: *there are no better reasons for proposing other courses of action.* Only when strengthened with this principle the "X leads to Y" *Means-Goal* premise is properly licenced and the entire PA generates reasonable, even if expectedly defeasible, results. Since this general principle has three distinct sub-species, there are, then, three principles of reasoned action:
1. doing what's necessary;
2. doing what's best; and
3. doing what's good enough. It is these inference licences that can become criticisable in PA to the effect of undercutting the practical inference.

Before discussing the ways to criticise PA, I briefly mention one more option, which is likely the most common and the least discussed kind of means we consider in our PA. I have called them *conducive* means in order to convey their presumed worthiness in approaching the desired *Goal*, despite their being neither necessary nor sufficient means (Lewiński, 2014, p. 6). Conducive means should be considered against a disjunction of other alternatives (for they are not necessary) and in conjunction with other means (for they are not sufficient). Examples of such means are plenty. Consider the one analysed by Ihnen Jory (2012, pp. 33-34): "In order to mitigate greenhouse gas emissions we should invest in building more concentrated solar energy plants (CSP)." Clearly, to do so is not a necessary action to mitigate greenhouse gas emissions, as we can instead drive electric cars, build more wind farms, or even nuclear plants, and still achieve the goal. Equally, it is not a sufficient means: alone, more CSPs will not rid us of all the undesired gas emissions. Still, when supported with other premises of the scheme of PA, and as part of a bigger plan, going for more CSPs might be not a bad conclusion at all. It might be more efficient, or otherwise acceptable, than nuclear plants, or might let us achieve a certain level of mitigation we are satisfied with. Shortly, whether because it is an optimal or a satisfactory means, it takes us some way from current *Circumstances* to the *Goal* and is thus

presumably reasonable. Following all this, we arrive at the following types of inferences licencing our PA:
a. Doing X is *necessary* to get to Y
b. Doing X is *sufficient* (and *best / good enough* way) to get to Y
c. Doing X is *conducive* (and *best / good enough* way) to get to Y

5. *Criticising practical argumentation*
Among others, Walton stands out as the one who has thoroughly investigated the ways to criticise PA. According to him (Walton, 2006, p. 188; 2007, p. 223), "[t]here are three ways of criticizing practical reasoning:"

1. To attack one of the *premises* of the argumentation scheme.
2. To undercut the argument by asking one of a number of *critical questions* that match the scheme – (corresponding to Pollock's (1995) *undercutters*).
3. To mount a *counter-argument* designed to rebut the original argument from practical reasoning by arguing for an opposite conclusion – (corresponding to Pollock's (1995) *rebuttals*).

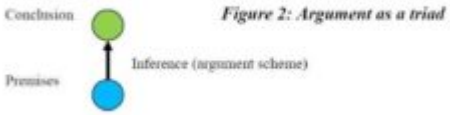


Figure 2: Argument as a triad

This triad is well-justified given the dominant, triadic view of argument (see Figure 2).

One can, then, criticise the premises, the inference or the conclusion itself. That this actually works (read: is a jointly exhaustive and mutually exclusive classification of types of criticism), can be easily illustrated on a classical syllogism:
Some men should work as slaves.
Socrates is a man.
so
Socrates should work as a slave.

To criticise it we can:
1. *Attack* one of the *premises.* Here, the major premise seems vulnerable: "How can you say that some human beings should work as slaves?! It's absolutely unacceptable!"
2. *Undercut* it by pointing out that this is not a valid form of syllogism: "Here's my Venn diagram, it clearly doesn't follow." "You can't reason validly through two particulars."

3. *Rebut* it by defeating the conclusion: “Socrates is a free-born citizen of Athens with full rights, so he can’t work as a slave!”

Walton is quite clear that his critical questions regarding given argument schemes fall squarely under the 2nd category: “Critical questions act as undercutters that challenge the inferential link between the premises and the conclusion of a practical inference” (2006, p. 190). When evaluating PA, Walton offers – among other more or less similar formulations – the following list of critical questions (CQs) for the “basic scheme for practical reasoning”(see 2006, pp. 189-190; 2007, p. 234; italics added):
(CQ1) What *other goals* do I have that should be considered that might conflict with G?
(CQ2) What *alternative actions* to my bringing about A that would also bring about G should be considered?
(CQ3) Among bringing about A and these alternative actions, which is arguably *the most efficient* (*the best*)?
(CQ4) What grounds are there for arguing that it is *practically possible for me to bring about A?*
(CQ5) What *consequences* of my bringing about A should also be taken into account?

In view of the schematic representation of PA proposed in Section 3 (see Figure 1), all Walton’s CQs seem to be premise attacks rather than inference *undercutters.* CQs, rather indiscriminately, address both the main context-independent premises of PA (*Goals, Means-Goals*) and its context-dependent criteria (side consequences, practical feasibility). One can thus easily (as Walton sometimes does) add additional CQs, for instance regarding conformance with other goals, opportunity costs or likelihood of success. In any case, we would have moved CQs from category 2 (inference undercutters) to category 1 (premise attacks).

Moreover, in the scheme of PA proposed here, the “better than any other actually or potentially proposed action {M,…, Z}” (see “M is Best” box in Figure 1) sub-premise already contains Pollock’s rebuttals. When arguing practically for the bestness of our proposal, we (implicitly or explicitly) claim that “we have a better (contrary) proposal / alternative means / conclusion of PA than you.” This does attempt to rebut others’ conclusions, but only by challenging one of the premises of their PAs. So category 3 (rebuttals) becomes 1 (premise attacks), just as 2

(undercutters) does.

While there is no room to discuss these issues in satisfactory detail – and thus better justifying the account proposed here – I will argue that on the basis of the analysis in the previous section, one can distinguish only three inference licenses and three corresponding critical questions regarding PA, in their intended function of inference undercutters (see Figure 1):
1. Is taking *necessary* means the right thing? (Maybe we should instead give up the goal, that is, one of my premises?)
2. Is taking the *best means* the right thing? (Shall we really optimise here? Or be somewhat slack and go for a satisficing strategy?)
3. Is *satisficing* the right way to proceed? If so, is the threshold set right? Or are we taking it too easy?

6. *Conclusion*

What I hope to have achieved in this paper is a focused, analytic investigation of the scheme of practical argumentation. This complex scheme moves quite some distance away from a simple argument built of a premise, an inference and a conclusion. But simplicity does not quite capture the reasonableness of practical argument, as is clear in examples that follow the basic scheme but are faulty. What is missing is one of the three inference rules: necessity, bestness or satisfactory goodness of the actions to be taken in view of reaching our goals. These inferences warrant the step from the exigency to be addressed (*Circumstances*) and the state of affairs to be reached (*Goal*) following the accepted *Values*, to *the action to be taken (Conclusion)*.

A number of issues require further theoretical attention. Are we speaking here of argument schemes as basic units of our argumentation or rather of complex argument structures, combining a number of schemes? Or does a fully fleshed our scheme always become a structure? Further, what are exactly the relations between the content of premises and inference licences? While clearly distinct in formal arguments, are they not confusingly similar in informal schemes? Can we at all clearly distinguish between premise attacks and inference undercutters?

In any case, by pursuing such investigations, we are moving towards seeing practical argumentation not as a standalone logical entity, but as an interactive product of deliberation. This deliberation takes shape of a *polylogue*: a multi-party argumentative activity where relative “rightness” of multiple proposed actions is

discussed.

NOTES

i. Note that some argumentation scholars – such as Perelman & Olbrechts-Tyteca (1969, §62) and pragma-dialecticians (Feteris, 2002; Ihnen Jory, 2012) – use instead the term pragmatic argument or argumentation.

ii. The notion of inference-licence is used by Toulmin (2003/1958) interchangeably with inference-warrant (see p. 91). Toulmin traces the origins of the notion to the work of Gilbert Ryle, who also uses the notion of inference-ticket, "which licenses its possessors to move from asserting factual statements to asserting other factual statements" (1949, p. 121).

iii. Of course, arguers can disagree over whether a means X is necessary or not, with the crucial argument being either the lack or the availability of alternatives (see Ihnen Jory, 2012, pp. 32-33). Once this is settled, however, and the "necessary condition scheme" for PR is used, we cannot without contradiction speak of the selection of means or of "the most acceptable necessary condition" (Walton, 2007, p. 216).

iv "[Soft rationality] deals with the vast area of the 'reasonable', which lies between the hard rational and the irrational. The model underlying the idea of soft rationality is that of a balance where reasons in favor and against (a position, a theory, a course of action, etc.) are put in the scales and weighed." (Dascal, 2005, p. 58).

v. For similar reasons, it has been argued (e.g. Byron, 1998) that satisficing is eventually a species of optimisation, as it aims at finding the optimal balance between overall costs (effort, time, other resources) and benefits (satisfaction of preferences and values) of our actions.

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ISSA Proceedings 2014 ~ Analyzing Political Discourse In Georgia: A Critical Discourse-Analytical Perspective On Political Imageries And Means-Goal Arguments

Abstract: Georgia has undergone remarkable socio-economic changes and political unrest on its difficult road to statehood. Re-establishing itself from the collapsed Soviet Union as an independent, sovereign state has been a painful process. This paper looks at number of speeches delivered by the political leader of Georgia Mikheil Saakashvili (presidential term: 2004-2013) in order to analyze argumentative public communication, focusing on how practical arguments in favour of the advocated policies are developed in the selected speeches.
Keywords: critical discourse analysis, Georgia, practical argumentation

1. *Introduction*

This article analyzes Georgian political discourse, namely annual report speeches of the Georgian president Mikheil Saakashvili (presidential term 2004-2013)

delivered at the Parliament of Georgia. It draws particular attention to practical arguments and rhetorical devices used in the selected political texts. Although President Saakashvili is acknowledged as a charismatic and persuasive public speaker, I argue that his speeches reveal lack of argumentative communication and fail to suggest a clear political vision while strongly advocating policies.

Over the past two decades, republic of Georgia has undergone remarkable socio-economic and political changes. Re-establishing itself from the collapsed Soviet Union as an independent state has been a painful and rather complex process. The recent history of the country has included the overthrow of communism, revolutionary change of the government and the first constitutional transfer of power through elections (leading to the so called 'cohabitation'). Georgia's shift from a former soviet republic into an independent state has been analysed within various disciplines. Historical timeline and accompanying processes have been observed in terms of social or political studies, identity and ideology related debate and other fields of research. In recent times, there has been growing interest in applying discourse analysis to study politics and power. According to the Constitution of Georgia, "The president is authorised to address people and the Parliament, and once a year submits a report to parliament on the most important issues concerning the state". The present paper looks into 7 institutional the speeches delivered by the president of Georgia Mikheil Saakashvili to the supreme legislative body of the country. I am primarily interested in identifying practical arguments in the selected political texts and analyzing relevant schemes pursuant to Critical Discourse Analysis. This paper addresses the following questions: What particular argument schemes is the arguer using to justify particular lines of action (policies)? How can these arguments be evaluated from a dialectical and rhetorical perspectives?

The article will first discuss analytical framework of the research, that is of Critical Discourse Analysis (Fairclough 2010) and particularly the more recent version of CDA that gives primacy to practical argumentation and deliberation in political discourse (Fairclough and Fairclough 2012). Critical Discourse Analysis is especially relevant due to the focus it has on texts and its encouragement to have a dialogue between disciplines while conducting analysis. Second, I continue with the analysis of 7 institutional speeches with specific attention to practical arguments in favour of the advocated policies – how practical argumentation scheme is used to legitimize foreign policy and implemented and/or planned

reforms.

Analysis shows that not only are the premises poorly related to the claim for action, but are also frequently insufficient and unnecessary too. I suggest that vague representations of the goal premise, hence vague political visions or imageries, are characteristic of the practical arguments being made, and the measures that allegedly need to be taken are often insufficient and sometimes unnecessary. There is a complete absence of alternative courses of action and critical examination of such alternatives, and hasty generalisation is one of the most characteristic argumentative fallacies in all seven reports. This seems to correlate with an absence of clear political vision as to which particular goals Georgia ought to be pursuing and what means are, realistically, most likely to deliver a range of desirable goals. Certain common elements found in all seven speeches is a special contribution to this research. Analysis will proceed on focusing on these common characteristics found in all speeches. The final part of the article is dedicated to summarizing main findings and lessons learned.

2. *Methodology*

The analytical framework of the paper is that of Critical Discourse Analysis (Fairclough 2010) and particularly the more recent version of CDA that gives primacy to *practical argumentation* and deliberation in political discourse (Fairclough and Fairclough 2012). Being of highly interdisciplinary character, "Critical Discourse Analysis (CDA) studies the way social power abuse, dominance, and inequality are enacted, reproduced, and resisted by text and talk in the social and political context. With such dissident research, critical discourse analysts take explicit position, and thus want to understand, expose, and ultimately resist social inequality" (Van Dijk 2001, 352).

In their recent book "Political Discourse Analysis a Method for Advanced Students" (2012) Isabela Fairclough and Norman Fairclough describe practical reasoning as a discussion regarding future actions and suggest showing (reflecting and analysing) practical reasoning as part of political discourse:

"The structure of practical reasoning that we suggest is the following (Figure 2.1), where the hypothesis that action A might enable the agent to reach his goals (G), starting from his circumstances (C), and in accordance with certain values (V), leads to the presumptive claim that he ought to do A. It is often the case that the context of action is seen as a 'problem' (and is negatively evaluated in view of the agent's existing values or concerns) and the action is seen as the solution that

will solve the problem. As the conclusion that the action might be the right means to achieve the goal or solve the agent's problem follows only presumptively, we have represented the link from premises to conclusion by means of a dotted line." (Fairclough and Fairclough 2012).

Thinking of this scheme as one of the most relevant frameworks for analyzing set initiatives in political context, I will apply the above described structure in analysing argumentative communication in annual report texts.

3. *Annual reports*

2003 was a turning point in the modern history of the republic of Georgia. On November 23rd, a peaceful revolution took place when thousands of demonstrators were led by a young and a charismatic leader Mikheil Saakashvili. In January 2004 Saakashvili was elected president of Georgia with 96% of the vote. The first annual report delivered by President Saakashvili to the supreme legislative body of the country took place in February 2005.

Introductory part of the 2005 report's text is quite extensive and includes some argumentative discussion. The speech contains 3480 words out of which 1171 are of initiatory character. By the beginning of the report, president develops a rhetorically rich comparative analysis: what did Georgia look like before the Rose Revolution and what it turned into due to the democracy-promoted efforts made by the new government. The narrative highlights "Our achievements" on the one hand and "Georgia a year ago" in contrast. While developing this opposition the speaker applies simple argumentative structure: "Georgia was a country with no defensive capacity – there was not a single tank and not even a bullet for an hour fight. We had an army in several month hunger." The speaker's statement about military weakness of the country is supported by two premises: the lack of relevant equipment and poor conditions for the solders. Achievements of the year, on the other hand, are presented by using specific, detailed cases and examples. Each of the successful fields has its own "concrete hero". While illustrating successful governance through individual names (and stories) may serve as a powerful persuasive strategy, the risk of developing a fallacy – hasty generalization increases. For instance, the speaker emphasizes the achievements of the finance police through the case of Kvemo Kartli (administrative region in Georgia) department, names the head of operational department, greets him in front of the public and expresses gratitude towards him personally. The same strategy is applied to show the success in the field of education, security and law

enforcement – patrol police activities.

One of the fundamental issues highlighted in Georgia's development agenda, especially after the Rose Revolution, has been related to European and Euro-Atlantic integration. Strengthening cooperative links with NATO has been perceived as one of the best options for enhancing the country's security and developing realistic perspectives on territorial integrity. Georgia has two breakaway regions of Abkhazia and South Osetia, consequently international support in consolidating the state is of utmost importance.

The text of 2005 report, however, is quite limited in terms of elaborating arguments in favour of the implemented foreign policy. NATO integration program is presented as part of the general, so to say ,,Georgia now and before" argument, part of the rhetorically rich sequence of statements:
1.
"No one should question our presence there. Georgia must participate in the processes because our country should restore its territorial integrity through peace. We are not a country in ordinary condition. We are the state that seeks international support today, as never before, to implement peaceful processes. In order to gain peace, it is critically important that a country is strong. Army is a constituent part of it. In summer, during antidrug operation 16 of our best soldiers died. The first woman instructor, Ms. Ia, trained according to American program on Krtsanisi polygon is present here today" (Annual report 2005).

In spite of the issue's priority, the speaker does not provide even primary explanatory information on peace building activities and operations. Connection between Georgia's participation in the process and restoring country's territorial integrity is rather vague. This seems to underestimate the importance of thorough discussion before claiming a specific action. Gratitude and appreciation towards solders is the major context in which the speaker discusses Georgia's engagement in NATO operations. The sentence on dramatic consequences of the operations (death of 16 solders) is followed by an innovation, a modernisation concept (for example a woman solder trained in accordance to American program) and messages tapping into patriotism, thus disguising (or preventing) alternative assessment of the action. The passage, I believe, serves to create an emotional attitude towards Georgian solders' involvement in NATO operations in the Middle East.

Goal: “Our country should restore territorial integrity.”
To achieve the set goal the speaker offers to continue participation in NATO peace building operations.
Claim of action: “Georgia must be the part of these processes“.
Circumstances are presented radically: “We are not the state in an ordinary situation”
The value premise behind this short argumentative text is a concern for territorial integrity.

Something that is not explicitly discussed in the provided example above is that, in order to get support from the international alliance, any state needs access to its membership (which Georgia does not have so far). The challenging questions to the claim for action would be: Is participation in peace building operations necessary and sufficient for restoring territorial integrity of Georgia? Is the practice of participation linked to becoming a NATO member state at all? Does Georgia’s quest for NATO integration guarantee facilitation of processes on the long road to alliance membership? According to the information provided at the official web-page of the Ministry of Foreign Affairs of Georgia, (www.mfa.gov.ge) Georgia became the participant of NATO Partnership for Peace program. As part of the program, Alliance member and partner states arrange trainings and quarter teachings. Georgia is actively included in the seminars and conferences dedicated to modern security challenges. The country made an official application in NATO Prague summit in 2002. Another important information is that Georgia contributes to ISAF – International Security Assistance Force – operation. Currently, as a non-member state, it has the second largest military contingent in Afghanistan. In fact, considering the role taken and participation scale, shedding more light on the claimed actions could have lead to more rational judgement. Georgia’s integration to NATO still remains a highly contested issue. While praising Georgia’s reform efforts, achievements and outstanding role in the international alliance operations, the world leaders’ comments challenge the dynamic perspectives of integration: “There are “no immediate plans” for expanding NATO to include Georgia and Ukraine, U.S. President Barack Obama said at the press conference after the EU-US summit in Brussels March 26 (2014)” – Reports daily news online service www.Civil.ge. The below quote (cited on the same online news service) provides incentives on why the question of integration remains debated: “I know that Russia, at least on background, has suggested that one of the reasons they’ve been concerned about Ukraine was

potential NATO membership. On the other hand, part of the reason that the Ukraine has not formally applied for NATO membership is because of its complex relationship with Russia. I don't think that's going to change anytime soon, obviously," President Obama said.

President Saakashvili touches upon Georgia's territorial integrity, security related issues and a foreign policy as interconnected topics in every annual report delivered in the Parliament. Most of the time, in my view, relations between the set goals and means of their implementation are fairly represented. Practical argument on Georgia's foreign policy in the report of 2006 is as follows:
2.
Circumstance premise: "Georgia has many international friends. On the other hand, they (implying enemies) want to annex territory of our country. We move to NATO standards. Very soon Georgia's border will be the borders of NATO. Today I am confident to say something that I would be unable to say yesterday- Georgia is one step away from NATO."

Goal: becoming a NATO member state. Reaching a state where Georgia is a free and a successful country.

Means – goal: identifying concrete means that will deliver this goal, however, is difficult. One of the suggestions of reaching the goal is the following: "If everything continues the way it is going on today, and if no one is able to involve us in a heavy provocation, Georgia and Ukraine (however, I can only speak about Georgia) has a chance indeed to become NATO member states in 2008. And this year we can become official candidates for NATO membership". Increasing awareness among international community about the situation in Georgia is presented as another means goal/ another opportunity to reach the goal/: "They should know that the teacher from Gali can be arrested when her/his student expresses "Long live to my country".

Gali is a district in the breakaway region of Abkhazia that has ethnic Georgian population. According to the Human Rights Watch report, "About 47,000 displaced people have returned to their homes in Gali district. But the Abkhaz authorities have erected barriers to their enjoyment of a range of civil and political rights". The document highlights restricted access to Georgian – language education in the region. The above mentioned means-goal quotation refers to the violation of rights of the ethnic Georgian teacher in Gali district, the

threat that any teacher may face. This may implicitly indicate that if Georgia spreads information about the circumstances in breakaway region among the international communities, and sheds light on the human rights conditions, then inequalities will be revealed and Georgia's need of better international protection will become more explicit.

Claim for action: Seeking international support should continue. The launched initiatives and policies should continue. Through this judgement, I think the president attempts to justify the actions taken by the team he represents and advocate the continuation of the same rout.

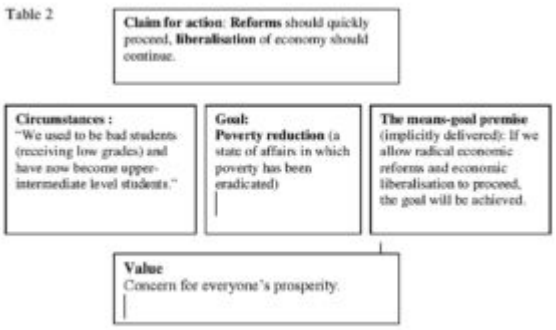
Table 1

Comparative statement on "Georgia before the Rose Revolution and now" continues to retain leading position in the annual report text of *2006.* Like in previous case, this time as well it is enriched with stylistic devices. The president begins his speech by questioning: "Where did we start from? Where do we stand now? Where are we going?" The rest of the text fits into this scheme and increases pathetic background with various stylistic and lexical devices, such as: ,,We *began* from the point where Georgia, as a state had its existence *finished*… We *started* from the point where nations and states end their being". ,,We need to wound our healings." *Necessity of continuing reforms and liberalisation* is a key claim for action in the 2006 report script. Circumstance premise in this practical argument is exceptionally extended: 11 different directions asserting economic development can be distinguished in it. Sometimes simple argument schemes are applied within the circumstance premise. Circumstances are described as follows:

1. Impressive economic development;
2. Georgian entrepreneurs can make business in favourable conditions;
3. The country budget accumulated more amount than it has been planned;
4. FDI volume has been increased;
5. GDP has been increased;

6. Inflation decreased;
7. Privatisation has reached unprecedented level;
8. Georgia strengthens its economic ranking internationally;
9. Taxation system has simplified and became orderly;
10. Tourism started to develop;
11. The country's economy is considered as one of the most liberal in the region;

Above all, the circumstance premise is summarised metaphorically:"This means that we used to be bad students (losers, those who receive low grades) and have now become upper-intermediate level students." Frequent application of stylistic devices asserts once again that the speaker uses maximum language (lexical) means to have efficient communication and influence audience's attitudes. In this case, for instance, the new governing team is presented as a bright, hardworking student in contrast to what previous government used to be. Through this particular personification device, efforts are made to relate positive concept to the new government, establish and strengthen affirmative attitudes towards ,,the Georgia after Rose revolution". The goal premise of the next identified practical argument is poverty reduction – a state of affairs in which poverty has been eradicated. The speaker is quite confident while setting the goal here and provides international organisations' outlooks as a support to this hopeful attitude: ,After the year of 2009, According to the World bank and International Organisations' categories, Georgia will not be a poor country any longer. We will leave poverty in the past forever." Giving a specific date increases the statement's persuasive affect. Value behind the communication is a concern for everyone's prosperity. According to the text, all major fields of country's development (including development of social services, banking system, education etc.) heavily depend on the realisation of rapid reforms. Everything that a county has achieved so far was a result of reforms. Mainstreaming reform into every field of policy planning is an absolutely necessary means of reaching a goal. The means-goal premise (implicitly) delivered here is the following: if we allow radical economic reforms and economic liberalisation proceed, the goal will be achieved.



Even though economic liberalisation and radical reforms in essentially every field are depicted as (almost the only) means to reduce poverty, some analysts question the relevance and outcomes of this policy. The research on "Reforming of Post-Soviet Georgia's Economy in 1991-2011" asserts that "successes in economic reforms were followed by stagnation, which was particularly exacerbated by the increased scale of corruption. The economic reforms, which were carried out after the —Rose Revolution, are especially interesting. Along with successful reforms of neo-liberal nature, neo-Bolshevik actions became apparent as the Government started openly infringing property rights (Papava 2013). A lot of space is traditionally dedicated to the statement "*Georgia before the Rose Revolution and now*" in the text of 2007 report. The representation is realised through antithesis/ oppositions.

Georgia before 2003:
"A ruined state drawn in the mud of failure"
"Frozen in stagnation, a country left backward"
"Totally corrupted"
"A country with criminal mentality"
"Demoralised, hopeless state on its knees, without any dignity"

Georgia after 2003:
"The world's one of the most dynamically developing country"
"The world's number one reforming state"
"The world's leader in fight against corruption"
"Criminal mentality destroyed"
"Proud, new Georgia"
"Sense of national dignity has returned to people"

Quite often development processes and positive outcomes of new government's reforms are shown through simple argumentative schemes. For instance, while talking about the fairness of updated education system: "Today we live in Georgia, where knowledge is appreciated… Applicants from ordinary families are able to enrol at the universities." This statement is supported by an example, the case of an applicant, who is at the same time attending the annual report presentation. The president greets the young and motivated person. Bringing this

one example as a success story may threaten the rational argumentation and may, as in the case illustrated earlier, lead to hasty generalisation fallacy. The same applies to the following part:
"Corruption is not a problem any longer. The day before yesterday, officers at Tax Office were arrested. The operation was named as a 'left pocket' by the prosecutor's office. A whole corruption scheme has been uncovered. Corruption is totally defeated."

Fallacy in this particular case seems to be related to hasty generalisation. It may still be possible that beyond this uncovered scheme, corrupted negotiations take place in the Tax office. Besides, Tax Office case is generalized and is presented as an example applicable to all fields. Argumentative passage from the report text of 2007 states the economic growth of the country.

"Last year a Georgian company – The Bank of Georgia appeared on London Stock exchange. Georgian economy used to be made on Validavkaz and Ergneti flea markets before. Now it has moved to London stock exchange. This is an indicator of our country's growth."

By the time of delivering this particular report, Newspaper *"24 Hours"* reports that London Stock exchange hosts the representatives of 70 countries, around 3000 companies. Out of these 3000, only about 1000 companies are represented in premium listing. ,,The Bank of Georgia" is included in the premium listing. Indeed, the success of this joint stock company is remarkable; however a broad statement about country's economic growth may be estimated as exaggeration.

In the text of 2007, a word "reform" is applied synonymously to positive concepts only, lexical items denoting success, fairness and promising future are used in the same context: "Reforming, charitable work", "Reformatory and leading parliament." ,,Our people are hundred times cleverer than those politicians who set themselves against reforms." ,, Every reform , no matter which field it takes place in, sets itself the only goal: Improving our citizens lives. There is no such a thing as unpopular reforms".

Conclusion
I would like to summarise some basic findings of the presented research. analysis has shown that although President Saakashvili's report texts contain some argumentative judgements, still the most part of the corpus is of rhetorical

character, enriched with stylistic devices. Practical arguments can be identified in the selected institutional speeches, however quite often claims for action as well as supportive premises have essential clarification shortages. The country's foreign policy and security related practical reasoning is developed with an absence of clear means leading to the set goals. For instance, the aim for Georgia to become a NATO member state is clear; nevertheless proposed means of reaching this goal profoundly lacks clarifications and seem unnecessary (or even quite wrong). Some of the significant strategies of the speaker persuading the audience are related to using the concepts of fairness, sense of responsibility, accountability. In addition, contrasting the nearest past to the current state – "Georgia before the Rose Revolution and now" gains an important role as a strategy and is widely applied in every annual report. Reforms and quick implementation of economic liberalisation are presented as core of political agenda. Overall, most of the strategies and generally the discourse created by the speaker is used, in my view, to legitimise the power of the ruling team, its political agenda and planned as well as already implemented policies.

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ISSA Proceedings 2014 ~ The Persuasive Powers Of Text, Voice, And Film – A Lecture Hall Experiment With A Famous Speech

Abstract: This paper presents and discusses a lecture hall experiment concerning the rhetorical impact of different media. The experiment brings out notable differences in the effects of persuasion and argument embedded in the same set of words – in this case an extract from a historic speech – when presented respectively in writing, as speech, and on film.

Keywords: argument, experiment, film, mountaintop, persuasiveness, rhetoric, soundtrack, text, visual, voice.

1. *Introduction*

For a number of semesters I have conducted a lecture hall experiment with international university students about persuasion and argument and how they appear to differ in their impact, dependent on whether they are presented in writing, as speech or on film.

It is hardly surprising that the medium used to present a text can influence how its message is perceived by an audience, but the eye-opening trick of this experiment is that I present my students with exactly the same "text" or "content" in each case, first in writing, then as a voice recording, and finally on film. The students' conceptions and evaluations of each type of presentation of the "text" alter dramatically as it changes from reading mode to listening mode and then to film-viewing mode. Naturally film-viewing here includes the sound track with its associated background sounds and voices heard among the audience.

2. *Persuasive features of the text*

The piece of text that I use is taken from a fairly well known speech, but I have deliberately chosen a part of it that does not give the orator, the context or the situation away too obviously. I want the students to focus first on the text as written material, tell me what it says, how it is structured and styled, and how it affects them. I also ask them not to let it be known, at this point, if they have recognized the text or are able to make an intelligent guess either as to its origin or who wrote it. I then ask them whether they have found any sound arguments in the text and whether, and in what manner, they find it persuasive. The text runs as shown in figure 1:

Like anybody, I would like to live a long life. Longevity has its place. But I'm not concerned about that now. I just want to do God's will. And He's allowed me to go up to the mountain. And I've looked over. And I've seen the Promised Land. I may not get there with you. But I want you to know tonight, that we, as a people, will get to the promised land!
And so I'm happy, tonight.
I'm not worried about anything.
I'm not fearing any man!
Mine eyes have seen the glory of the coming of the Lord!!
(Figure 1: This is the text image that I project on the screen in the lecture hall**[i])**

At first the students often hesitate, probably because they suspect that I am setting some sort of trap or test, and also because they do not find the text particularly clear or easy to categorize. I often have to help a little with getting them started on what could be called a common pragmatic analysis, or an analysis of the content and form of the text. For example, I may ask them what sort of text it seems to be: is it like a love letter? Is it perhaps more like a note from one's bank about some problem with an account? Or is it perhaps an announcement

from their university about upcoming exams?

At this point the students often say that the text looks more like part of a speech or perhaps a sermon. I ask them what the indications of that are, and they will then say that there are a number of short sentences, such as are to be found in an oral presentation, and also that there are some religious references such as “God” and “the Promised Land”, the latter referring to the story from the bible about Moses leading the Jews to the ‘Promised land’ or to “what they considered” the ‘Promised Land’ (International students in my classes are often very cautious when it comes to matters touching on political correctness!).

When asked for more comment about the style of the text they note points such as the clause “I’m not” as opposed to “I am not” as further indications that it is a transcript of a speech. The speaker’s use of the phrase “Mine eyes” instead of “My eyes” seems to make the mood of the text rather solemn, as do the words about doing “God’s will”.

Further encouraged, the students may also mention the alliteration in “Like to Live a Long Life”, and also how many phrases start with the same first word “And” (anaphora).

When asked about possible arguments in the text the students are as a general rule unable to identify any, but with a little help they can reconstruct at least an example of an incomplete one: “I have seen the Promised Land, *because* I have gone up to the mountain” (the unstated but implied second premise – the “warrant” in Toulmin’s terminology – would be something like: “From the mountain you can see very far/ see the Promised Land”). However they find this unclear, and consequently unconvincing as an argument. All in all the students do not seem to feel that the text has convinced them, or to put it another way they do not see that it has any significance for them: they do not feel moved or touched by it. Once a student went so far as to say that it was just a lot of egotistical religious nonsense that ‘left him cold’.

3. Persuasive features of the voice

I then tell the class that I am, so to speak, going to add a voice to the text – in the form of a soundtrack – while the same text is still projected onto the screen. I further ask them to reflect while they listen, and consider whether the voice in any way changes their perception of the text, especially with regard to its

argumentative or persuasive qualities.

Figure 2: This pictogram is added next to the text in figure 1, and in the experiment this enables the soundtrack to be played.[2]

Figure 2: This pictogram is added next to the text in figure 1, and in the experiment this enables the soundtrack to be played.**[ii]**

As I play the soundtrack it is usual for quite a few students to 'light up' as they recognize the voice, but again I ask them not to mention the fact or name the speaker and remind them to try to characterize the voice.

That sometimes appears to be rather difficult for them, until I point out that obvious features, such as whether it sounds like a male or female voice, would be relevant. 'Of course, it is a male voice', they say, and add that it has an American accent. Some even identify it as being spoken in a Southern dialect and add that it sounds like a black preacher from the 1960's.

And indeed it is, namely Martin Luther King. By now most of them have guessed that, and that in turn seems to make it easier for them to characterize the voice. But I then ask them to consider in principle just the voice that lies before them, by trying to abstract from background knowledge and simply focusing on such qualities as they can detect in the voice itself.

They mention that the speaker sounds very dedicated and sincere, and that he has a peculiar way of enhancing, or prolonging, certain words and vowels, almost as though he is singing or chanting.

We can then agree that hearing the speaker's voice adds quite a lot of "information" (or one could say in terms of rhetoric that it adds heavily to the *ethos* of the text), i.e. in this case we are convinced that it is a man speaking, but also that he is very engaged and eager to convince his audience. When I ask them how exactly it is that they have received this impression – which qualities or features of the soundtrack reveal this "dedication", they may answer that they just feel it very clearly: there is something compelling about the speaker's intonation, the modulation of his voice, and its loud, stentorian quality.

We can also agree that while it is quite difficult to describe a voice in detail – and we are not used to doing so – we are nevertheless very good at recognizing different voices. We do not need to listen for many seconds in order to identify the

voice of a friend or family member, or of someone who often appears in the media: we can do it in a split second, and can often, just as instantly, recognize the mood or emotion of the person speaking, even though we may not have much by way of analytical tools, precise concepts or academic terminology at our disposal.

And the qualities of the voice directly affect our own moods, perceptions and attitudes. We do not have to wait for a careful analysis or a "reading of the whole text" in order to take away an impression and be influenced by the voice: it makes its impact immediately.

Pushed for more information from the soundtrack in question, the students add that they can clearly hear the response of the audience in the room where the speech is being given, – and from it get the impression of a very enthusiastic interaction between the speaker and the audience, something quite absent in the written text.

Of course a careful transcript could have added notes about applause from the audience and the several cries of "yes!" from within the room, but again such a transcript could never describe the actual audio experience and might well be felt to be inauthentic. The written text cannot deliver the "live" experience, whereas the soundtrack feels immediate and has "presence". The text, as text, can be read either slowly or fast, and can be repeated, broken up and analyzed; the soundtrack, however, flows in a sequence that normally takes the natural pace of the events it records. We can of course break it up, change the speed and manipulate it, just as we can manipulate and edit a written text or a film. But in listening we experience the feeling of something happening "right now", even though what the listener is hearing may be a historical recording.

A written text can to some extent come to life as we read it, but that requires a special type of imaginary activity on the part of the reader. Half an empty page and a word in capital letters will seldom cause a reader to jump from his seat, whereas a long pause or a sudden loud sound on a soundtrack would normally cause an immediate physical reaction of surprise or shock among an audience.

Anyway, at this point I can agree with the students that the soundtrack, to a much greater extent than the written text, gives us a feeling of being present and of participating in an event with other people. The speaker seems in a sense to

include us in his audience, even though we realize full well that we were not present when he was speaking. The voice reaches out to us, trying to convince us of something.

This may not be the case with another voice. As an illustration I sometimes read the text out loud, and my voice sounds very flat, monotonous and unenthusiastic compared with Martin Luther King's. And the students agree that my reading of the text has quite a different, even ridiculous, effect. It is in no way convincing; it presents the listener with quite a different type of speaker, one whose voice does little by way of communicating either the message or its appeal.

4. *Persuasive features of the film*
I then ask the students to observe how their experience and evaluation changes when I project a film clip that covers the same text (including naturally the soundtrack they have already heard).

Figure 3: Still picture from the film displayed in the experiment. [3]

Figure 3: Still picture from the film displayed in the experiment.**[iii]**

While projecting the film I can see quite clearly that the students become much more attentive and emotionally involved than when they were simply reading the text or listening to the sound track. When interviewed about their experience they readily admit this, and lay stress on his eyes and his very intense eye contact with the audience. His eyes seem to shine brilliantly, almost superhumanly, almost as if he were about to burst into tears. They also mention his energetic gestures and commanding posture.

When pushed a little further they tell me that his formal black and white clothing add to the mood of the film clip, as do the dark back ground and the spot light on the speaker. Sometimes I can even nudge them into noticing the angle from which

he is being filmed, with the camera ‘looking up’ at him, emphasizing his appearance as a preacher, or father figure.

When I ask what more information or “material” they can get from viewing the film (besides what they have already mentioned about the speaker being a black male, dressed in such and such a fashion and looking thus and so), the students may recall that there are also a few short shots that include the audience. If I then search out one of these shots and pause the film there they tell me that they get the impression, even more so than from the sound track, of an enthusiastic audience; and note that it was a mixed audience of men and women, black and white, old and young. And from the clothes and the setting we get an idea of when and where the speech was given (some decades ago in America).

Figure 4: The film clip gives us more information about the audience and the setting.

Figure 4: The film clip gives us more information about the audience and the setting.

At the very end of the film clip we get a shot that is almost ‘backstage’: the camera has zoomed out, and in this shot we see the speaker leaving the podium and being greeted or thanked, by his friends or staff.

Figure 5: Here the camera shows us what happens ‘backstage’.

So when asked to comment on this, my students – being well versed in the academic slang of our Communication department – can tell me that the film clip offers us more information about the context and setting of the speech, elements that were missing in the written text – and some explanatory notes would be needed if one were to evaluate the written text properly. But even so the film clip still appears to offer us, in a much more realistic sense than the other types of presentation, the historical and cultural circumstances; and most notably, a sense

of almost being present.

Figure 5: Here the camera shows us what happens 'backstage'.

I then ask my students whether the camera is merely registering everything that is there, or if it is playing an active role in portraying the speech. This may of course lead to a long discussion about the nature of film and the genres of reportage and documentary, but I try to keep such digressions short. I often get the answer that certain camera angles have been chosen for effect and that not everything relevant to the occasion is shown, and that one can conclude therefore that the camera and film editing have a certain rhetorical power in shaping our perception and understanding of the event. And that certain things are missing on the film: if you had actually been in the room you would have had a direct sensation of the atmosphere; e.g. the smoke, the smell of the room, the temperature, the roughness and texture of the floor and of the seat you were sitting on.

As I show the film clip again I ask the students to pay special attention to what is happening towards the end of it. This time they notice a limited, rather shaky, amount of zoom-in onto the face of the speaker. This reveals of course the hand of the filmmaker making an adjustment to the camera – and could be seen either as a sign of poor practice, or else as an attempt by an experienced filmmaker to highlight what he feels to be the approaching climax of the speech. Very often when filming one moves in closer with the camera when the most intense moment arrives – or alternatively, by “moving in closer” one actually helps to create an important moment in the film.

Figure 6: This illustrates the framing of the subject and the camera's distance from it during most of the speech.

Figure 7: Towards the (anticipated) climax of the speech the camera tries to move in a little closer; the result is neither particularly smooth nor steady but that in itself seems to add to the effect of a climax. It is a feature seldom noticed by the students during the first run of the film clip.

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5. *The historical speech event*
At this point I tell the students – if it has not been revealed before – a little more about the speaker and the context: that it is indeed Dr. Martin Luther King, and that the quoted text is from his last speech, (now known as the "*I've Been to the Mountaintop*" speech), given on April 3rd, 1968 in Memphis, Tennessee; and I remind them that in 1964 King had become the youngest person to receive the Nobel Peace Prize for his work towards ending racial segregation and discrimination through civil disobedience and other nonviolent means. To younger generations, and because it has often been quoted from and reported on film and TV, King is nowadays perhaps best known for his *"I have a dream"* speech of August 28, 1963, given at the Lincoln Memorial, Washington. He was assassinated the day after the *'Mountaintop'* speech, on April 4, 1968, in Memphis.

This background information adds of course to the experience, to our emotional response to the words as well as to the film as a whole. Some students argue that it seems obvious now that he actually knew that some 'bad guys' were out to kill him and that this is revealed both by his words "I may not get there with you",

and by his eyes and whole appearance. Others will say that it is easy to over-interpret and read things into a text or a film when you already know the chain of events and the historical circumstances.

At this point it usually becomes clear that we are talking about four different things here: the written text we saw first, the soundtrack of Dr. King's voice, the film clip recording his speech, and the 1968 event itself.

The students and I are now agreed that in this case going from the written text to the soundtrack and then on to the film clip greatly increases the persuasiveness and impact of the speech, and at this point it would be tempting to ask the students if they feel that being present at the actual speech event would have left an even stronger impression on them. But that, of course, would be inviting speculation about what could well become a very muddy case, so I usually refrain from it.

But I might add a comment that one's actual presence at the historical event in that room should not be considered critical or decisive when it comes to making an assessment of the persuasiveness of the speech, as in that case one's assessment would depend, naturally enough, on whether one was there as a black boy in the front row, a sleepy old woman at the back, a white policeman on duty, or a member of the organizing committee worrying about possible riots. And one's individual perception and appreciation of the performance of the speaker, his gestures and his words, would depend on a number of other factors. But as a point of departure for an academic content analysis we have to look at those features that are actually there and that we can agree upon are there (as belonging to the written text, the voice recording, and to the presented film). The next step will then be to try to come up with a reasonable interpretation that others will accept too.

6. *Conclusion*

The whole lecture hall experiment described above is actually meant as a warm up exercise for students about to engage in further studies of Print Media production, Speech, and Video Production, as well as further studies in the analysis of Communication and Rhetoric. As such it leaves many aspects unexplored, but it may also give a certain overview of some constituent persuasive features in different media:

First of all an actual (unmediated) speech event is dependent – as we already know from Cicero's pentagon – on certain complex interwoven features if it is to be apt and persuasive: the speaker, the audience, the situation, the subject and the language. In this case what stands out is of course Martin Luther King as an eminent speaker, but then again it can be argued that he is also speaking at a crucial moment to a highly motivated audience. It can be described as an almost paradigmatic rhetorical situation.

The film reporting from that speech event is in a sense missing something: it is restricted to only two senses, the eyes and ears, and it has to employ specific camera angles and camera framing, specific microphone distance and quality, and typically the film last for a shorter time span than the actual event. So the film media seem to give us a "thinner" experience than that of being actually present. But then again, the features of camera and editing techniques can provide a degree of enhancement and dramatic dynamics to the event. It is not just 'representing' in the sense of duplicating, but actually arranging, stressing, explaining, condensing, pointing and offering the event to a new audience. The film maker's work can to a large extent be understood as an extra layer of rhetoric on top of what is already supplied by the speaker – as when the camera zooms in to "highlight" the climax of the speech, or what is happening backstage.

The soundtrack played alone without projecting the film reveals the quality of the speakers voice as well as the background noise in the room. This gives "more" information and appeal than we get from just reading the transcript, but it can also in some cases even emphasize and enhance the purely 'audio' qualities of the speech to a greater extent than what we usually experience when perceiving the complete film clip. Sound is very important to film, as we all know, and sometimes a soundtrack can become even more impressive when the images are not seen.

A written text may seem to come out of this experiment as a very weak medium in terms of persuasion and appeal. But that would be a misleading generalization. Written texts can be persuasive and moving in their own way. Certainly there are beautiful poems and novels that are hard to transform into films of equal beauty or impact, and some argumentative texts are better understood and appreciated when they can be read and re-read than when they have simply been heard. Written texts have features such as layout, fonts, and punctuation that may also enhance their meaning, and possibly also their persuasiveness.

So the conclusion I pass to my students is that the casual ranking of the various media in terms of how effective they appear to be in their ability to persuade, to convince, to argue and to communicate, is a mistake that should be avoided. Rather I encourage them to investigate very closely all of the different persuasive aspects of the particular medium they chose to explore in their upcoming workshops in media production and analysis.

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NOTES
i. This text is a transcript of the last part of the speech that is presented more fully on the following pages and in the notes. In order to give a fairly realistic presentation of the lecture hall experiment the origin of the text is not revealed at this point even though it would be the usual correct academic practice.
ii. The soundtrack is not embedded in the text here, but it can be played by using the video-link in the following notes – and to be realistic in terms of the lecture hall experiment one should not look at the video while playing, but only listen to the sound while looking at the quoted text above.
iii. The film clip can be seen at: http://www.youtube.com/watch?v=Oehry1JC9Rk

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ISSA Proceedings 2014 – Logical Validity, Bounded Rationality, And Pragma-Dialectics: Outline Of A Game-Theoretic Naturalization Of Classically-Valid Argumentation

Abstract: This paper outlines how classical propositional logic, particularly the notion of 'obtaining a classically-valid logical proof', can be understood as the outcome of an argumentation-game. We adopt two game-rules from dialogical logic under which obtaining such as proof is a matter of due course, as both rules together guarantee a winning-strategy for one player when logical consequence holds. We then show how these rules can arise from players' preferences, rather than be imposed externally, and can hence count as 'player self-imposable'. Subsequently, this game is shown to comply with the Pragma-dialectical Code of Conduct, while some of the Code's rules become gratuitous as their content arises directly from player's preferences instead. Our discussion is oriented towards future inquiries into how logics other than its classical variant can be similarly "naturalized."
Keywords: game theory, classical logic, proof, proponent, opponent, winning-strategy, pragma-dialectical code of conduct rules.

1. *Introduction*

Viewing logic as one language game among many, Ludwig Wittgenstein had offered an analogy between having a proof and winning a game (Wittgenstein, 1953). The formal details of this analogy have been mostly studied by formal logicians who, in viewing logical proofs as regimented argumentation-procedures, sought to give an argumentative characterization of logic.**[i]** Game-theory in particular became a natural framework to model episodes of natural language argumentation that characterizes logical inference, giving rise to game-theoretic semantics (GTS) (Hintikka & Sandu, 1997) and dialogical logic (DL) (Rahman & Keiff, 2005) as the two main approaches.

GTS and DL partially reduce logic to argumentation-procedures by restricting

players' strategies so that games realize the model-checking procedures and proof procedures typical of logical inference. The motivation for such restrictions, however, remains internal**[ii]** to the model, receiving primarily pragmatic justification through successfully recovering logical inference formally from particular constraints on argumentation. This article shows DL-restrictions that are imposed to recover first-order logical consequence from argumentation to be instead forthcoming from preference-profiles of boundedly rational players. Such players, we take it, cannot optimize their strategies because they lack the ability to compute complete representations of a game, while we understand constraints on such a game to be player-self-imposable through strategic reasoning (provably) equivalent to the elimination of dominated strategies.

The following outlines how classical propositional logic, particularly the notion of 'obtaining a classically-valid logical proof', can be understood as the outcome of an argumentation-game (2.1), and introduce two game-rules under which obtaining it is a matter of due course, for both rules together guarantee a winning-strategy (2.2), then raise the claim that the strategies adopted by players in this game are 'player self-imposable', because these same strategies may be inferred from players' preferences by (reasoning employing) a maximin-principle (Sect. 2.3 to 2.5). Subsequently, this game is shown to comply with the Pragma-dialectical Code of Conduct (3.1), but that some among the Code's rules are gratuitous, so to speak, whenever normative content already arises from player's preferences (3.2). Our discussion, in Sect. 4, is oriented towards future inquiries into how logics other than its classical variant might similarly be "naturalized." We close with brief conclusions in Sect. 5.

2. *The game-theoretic apparatus*

To start, we will sketch the elements of an argumentation-game as they appear from a game-theoretic perspective, introducing further relevant notions as we go along.

2.1. *Logic as an argumentative game*

The players' choice of a language, L, is a preliminary step to any language game. Agreement on the language in which the argumentation will be couched determines the actions arguers can take (e.g., how to attack and defend complex sentences; how to assess an atoms' truth value). We restrict L to a propositional language corresponding to a fragment of vernacular English where basic sentences (aka atoms) contain a subject phrase referring to individuals, a verb

phrase, and terms referring to individuals, e.g. “The cat is on the mat”; “Alice is taller than Bob.” Complex L-sentences combine atoms through connectives (and, or, if… then…), and locutions equivalent to negation (is not, or it is not the case that), or locutions that combine such complex sentences, collectively called operators.

Given a language L, a proof demonstrates that a conclusion C follows from a set P of premises. We will here be mostly concerned with the semantic view, where P collects situations where the set’s members are true, and to prove C is to demonstrate that C is true in every situation.**[iii]** In a DL game, the proponent (PRO) is committed that C is true if P is assumed, while the opponent (OPP) is committed that C may be false in at least one case where all members of P are true. In order to prove C, PRO must demonstrate that, once OPP concedes P explicitly, C is conceded implicitly. Players’ legitimate moves are attacks, which ask for explicit commitment to the consequences of a statement, and defenses, which incur commitments. A move’s legitimacy is partly determined by L; both players are allowed the same moves. Independently of the PRO or OPP role, for instance, if player X states “A and B” then player Y can constrain her to commit to A, to commit to B, or to both. If player X states “A or B,” then player Y can only constrain her to commit to (at least) one of the disjuncts, while X retains the option to commit to A, or to B, or to both. In tree form, Table 1 provides the complete set of attacks and defenses. Atoms are noted ‘ψ’ and are indexed by 1 or 2 when these occur in complex sentences; the prefix ‘Y?’ indicates an attack, followed by the specific sentence it targets, where some attacks allow to ask for a commitment that, when relevant, is specified after a forward-slash (‘/’). These rules can be applied systematically to any sentence player X has stated, eventually forcing X to commit to a basic sentence or its negation.

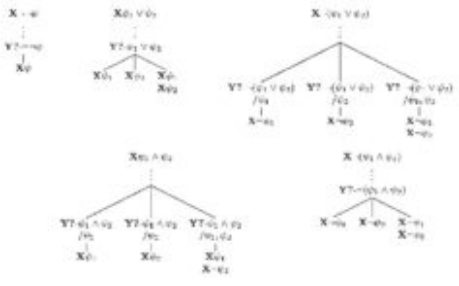

Table 1. Attacks and defenses for a propositional language L in tree form.

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form.

2.2 *Structural rules that guarantee a winning-strategy*

Provided the conclusion, C, is a finite statement, OPP is restricted to a finite number of genuine attacks, i.e., excluding repetitions. As we saw above, asking PRO to commit to complex expressions eventually brings it about that OPP asks PRO to commit to a literal, i.e., an atom, or its negation. (By convention, negated atoms cannot be attacked.) The first of the two structural rules, the *Structural Rule for Literals* (abbreviated SR-L), amounts to PRO having the last say in a play, only if she can, using merely the premises, P, defend C in that play. SR-L restricts only PRO's strategies.

Structural Rule for Literals (SR-L): Unless OPP has previously stated the literal A, PRO cannot defend herself against an attack that requires of her to state A.

The second, the *Structural Rule for Repetitions* (SR-R), prevents delay-tactics. After all, by repeating a genuine attack, one player could keep denying the other player's win, and so (forever) delay reaching the play's end-state.

Structural Rule for Repetitions (SR-R): Should player X have previously attacked statement A of player Y to which player Y has responded, then X cannot repeat this attack.

Together with agreement on the meaning of L's logical terms laid out in the attack and defense-rules in Sect. 2.1, these two rules suffice for representing argumentative games in tree form. The analogy between proving and winning a game thus gains precision. We now turn to the strategic reasoning of the players.

2.3 *Strategy selection*

Game theory generally explains strategy-selection by an inference called 'elimination of dominated strategies'. This inference considers all strategies available to players, ranks these on an outcome-ordered ordinal scale, and eliminates all strategies but that, or those, at the highest rank. (Once eliminated, the succession of moves such strategies consists of is not played.) Leaving implicit those preferences that are instrumental in generating the outcome-ordered strategy ranking has, in our opinion, prevented argumentative approaches to logic from becoming genuinely game-theoretic treatments. As we now argue, these shortcomings prevent DL from describing genuine language games, which

thus fails to resonate with its self-professed Wittgensteinian origins. As we also argue, however, DL semantics can be suitably "fixed."**[iv]** The required modifications apply at each of the following steps:

At step (1), each player must be provided with a preference-profile over the game's outcomes. From it, one may infer players' preferences over all possible moves of a play, thus postulating an inference from outcome-preferences to move-preferences. A genuine import from game-theory would otherwise be hard to discern.

At step (2), the rules SR-L and SR-R are promoted from being reasonable game-rules to the status of player-self-imposed restrictions. Here, one might postulate another inference that derives both rules from players' preference-profiles. But players might as well agree upon these restrictions explicitly, making them non-inferred game-rules that promote players' interests (see the next section).

At step (3), one requires some explanation on how players can each prefer selecting a strategy that, in combination with the other player's strategy, gives rise to a pair – called a 'strategy-profile' – which would be mapped to a semantic proof obtained when implementing mechanical constructions that guarantee this proof to terminate if and only if C follows from P.

As we show in the next section, comparatively weak assumptions suffice to equip players with suitable preferences.

2.4 *Preferences*

Being rather natural ones, our assumptions seemingly describe but mildly idealized arguers. Furthermore, a single inference-principle – called 'Harsanyi-Maximin', introduced below – apparently suffices to let players
(i) individually select move-preferences,
(ii) jointly self-impose the game-restricting rules SR-L and SR-R, and
(iii) jointly select only strategy-profiles that generate the equivalent of systematic tableaux proofs. These assumptions have been formalized in Genot & Jacot (2014). The following provides an informal version:

A1 – *Meaning Coordination*

Players have coordinated on the meaning of logical operators, and have the means for disambiguating non-logical terms.**[v]**

A2 – *Asymmetric Burden*
Players agree that, to win the game, PRO must meet every challenge raised by OPP, and so must win every play; OPP may challenge PRO by raising all alternatives compatible with the common ground, and OPP subsequently wins the game as soon as he has won a play.

A3 – *Comparative Efficiency*
Both players prefer games with fewer to those with more moves.

A4 – *Termination over Frustration*
Both players prefer losing a play, or a game, over playing indefinitely long.

A5 – *Imperfect Foresight*
Both players' ability to anticipate the other's moves is limited.

A6 – *Common Knowledge***[vi]**
Both players know A1 to A5 to be the case.

As sketched in Sect. 2.1, A1 can be satisfied by players agreeing on rules for attacks and defenses for connectives, and by their referencing atoms ostensibly (i.e., pointing to a term's referent).**[vii]** A2 is equivalent to having agreed on semantic consequence,**[viii]** while an explicit notion thereof remains gratuitous as long as it is well-defined how a play is won (which occurs by agreement on L). A3 is immediate whenever playing is costly, for instance time-wise. A4 is reasonable whenever players can contemplate the prospects of winning *future* games, while they might lose the present one. A5 typically holds for boundedly rational self-knowledgeable players unable to grasp the game's full combinatorial structure, and assuming as much of the other player. A6 holds whenever players explicitly agree to A1 to A5, in the sense that each then knows that the other does, too.

As a consequence of assuming bounded rationality, players cannot be meaningfully said to distribute probabilities over alternative courses of the game, and so cannot form rational expectations based on these. They can, however, always apply the rationality principle that Harsanyi (1977) proposed for reasoning in games where (probabilistic) expectations are not well-defined:
Harsanyi Maximin (HM): If player X cannot form rational expectations about the probability that Y will not select the strategy leading to X's least preferred outcome, then X should play the strategy that best responds to Y's most

detrimental strategy for X.**[ix]**

The rationale for HM consists in a simple consequentialist consideration: acting as HM prescribes guarantees minimizing losses that are incurred in worst case scenarios. Hence, for HM to be applied, it must be clear what the most detrimental strategy is. Together with A1 to A4, HM suffices in DL-games to vindicate informal arguments that are typically provided for the collapse of symmetrical options in dialogical games to the asymmetrical rules of semantic tableaux. More importantly, as is shown in the next sub-section, from HM, together with A1 to A4, SR-L and SR-R can be obtained as self-imposed strategic principles. Finally, if players agree to sequentially conduct all plays necessary to demonstrate whether PRO has a winning-strategy, or not, then this sequence simulates a tree proof. As noted above, when L is a first-order language, the possibility of infinite plays arises, and consensus can therefore only be found in the limit, by assuming that infinite plays are won by OPP.

2.5 *Structural rules as self-imposed constraints*

Formal proofs are given in Genot & Jacot (2014) that HM suffices to (i) collapse the best options for PRO and OPP to tree-building rules, (ii) obtain SR-L and SR-R as self-imposed restrictions, and (iii) lead players to realize proofs. We point readers to this paper for the third claim and will not separately treat the first claim here, either, as particle rules depend on the language L and thus on the pre-play agreement. But the second claim concerns structural rules which are in force in any DL-game, and for any language. How boundedly rational arguers can self-impose the structural rules SR-L and SR-R should therefore be relevant to the reduction of logical reasoning, classical or other, to argumentation. We now sketch how SR-L and SR-R can be justified argumentatively.

As for SR-L, the strongest position for the proponent of a thesis C in a pro and contra argumentation entails the ability to always support C *ex concessis*, i.e., through arguments raised by the opponent. In PRO's case, then, supporting C comes down to supporting those literals for which PRO has incurred commitments as a consequence of upholding a commitment to C vis-à-vis OPP's doubt about C. PRO can maintain the strongest position only if these same literals have previously been stated by OPP. And were PRO about to state a literal A that OPP had not *yet* stated, then PRO's worst case would consists in OPP systematically avoiding to state A. Since, *qua* A4, PRO cannot form a rational expectation as to the probability of OPP avoiding to state A, *qua* HM, PRO should never state

literals, unless these had first been stated by OPP.

Turning now to SR-R, consider cases where PRO might want to repeat an attack, because PRO's previous attempt to obtain a suitable literal A from OPP had failed, while PRO could possibly obtain a better response through repetition. PRO's worst case here consists in OPP repeating the response that had already proved non-suitable to PRO. *Qua* HM, PRO should therefore *not* repeat the attack. Doing so would merely extend the play, but bring no further benefits, an option that is ruled out by the preference expressed in A3.

OPP's reasons to enforce the content of SR-R are symmetrical to PRO's reasons, as the only situation where an attack-repetition is plausible is exactly that where PRO has answered all previous attacks. And even here, OPP could at best hope, but not rationally expect that PRO might, upon OPP's repetition of the attack, give responses that PRO cannot defend. The worst case for OPP, then, is that course of the game where PRO selects the same responses that PRO had previously managed to defend. Qua HM, as above, therefore also OPP should not repeat the attack.

3. *Comparison with the code of conduct*

Players' choices with respect to L, and with respect to preferences, may yield argumentation-games that instantiate different systems of logical inference. In particular, starting from an impoverished L, characterizing players' preferences through the assumptions A1 to A6, and using the Harsanyi Maximin principle (HM) suffice in order to obtain classical logic, modulo quantifiers. On these, see Genot & Jacot (2014). Classical logic is therefore said to result from self-imposed restrictions when argumentation is treated as a game that to win presupposes the existence of a winning-strategy, but not knowledge of its existence. This provides a formally precise sense in which logic can in principle emerge from arguers' preferences, thus clarifying the Wittgensteinian analogy mentioned in the introduction.

Were the formal relation between logic and arguer-preferences more fully understood, then one might perhaps obtain one from, and in terms of, the other. Until future research has shown as much, a modest but no less important insight is that classical logic needs no mentioning in normative argumentation-rules for it to nevertheless dictate the game's winner, because the constraints that make classical logic "the ruler" can arise from arguers' preferences, and so need not be

explicit.

In the remainder, we argue that reaching a consensus on the kind of logical consequence that shall apply for some argumentation-game, amounts to endorsing a particular specification of the Code of Conduct in the Pragma-dialectical theory (PD), and so may be viewed as a special case thereof. Sect. 3.1 compares the fifteen PD-rules to our structural rules. SR-L and SL-R are said to be specifications of PD-rules whenever the Code does not prevent participants from specifying its content in this way. We moreover discuss the assumptions A1 to A6 vis-à-vis PD's higher-order conditions that are placed on arguers seeking to settle a difference of opinion on the merits, and provide a brief discussion of the HM-principle (Sect. 3.2).

3.1 *Comparison of Structural Rules with PD-rules*

We assume familiarity with the fifteen Pragma-dialectical discussion-rules, aka the Code of Conduct. Its latest version is found in Van Eemeren & Grootendorst (2004), 123-157; Zenker (2007a) compares it to the Code's 1984 version. We refer to the Code's n-th rule as PD-n.

The structural rule for repetitions (SR-R) is a near-verbatim copy of PD-13, serving the same function: preventing delays. In contrast, the content of the structural rule for literals (SR-L) specifies more than one PD-rule. Moreover, some specifications of the Code arising from SR-L do so in combination with the assumptions A1 to A6, as will be discussed further below.

SR-L distributes the proponent and opponent rules, which remain the same throughout the game, thus specifying PD-4. Moreover, SR-L specifies the right to challenge, thus specifying PD-2, assigning it to OPP, and the obligation to respond to a challenge, thus specifying PD-3, assigning it to PRO. This allocation, in turn, implies a corresponding distribution of the burden of proof, regulated likewise through mutual implication in PD-3. Provided that player's agree on the circumstances of winning qua accepting SR-L, this also specifies PD-5, for players now agree on a successful attack, and a successful defense, in this discussion. (Recall that, per SR-R, a successful attack – of the claim that C follows from P – must not have been used already in the same discussion; and that a successful defense of that claim may not recur to material other than that conceded by OPP.)

PD-6 demands that players attack and defend only by argumentation. We do not

so much take PD-6 to be specified, but to be implied by SR-L and SR-R. After all, neither SR-L nor SR-R leave room for moves other than argumentative attacks and defenses. Thus, one may not strictly need PD-6 in the sense of a necessary condition for the resolution of a difference on opinion, provided certain preferences. Similarly, for a critical discussion the rules PD-7, PD-8, and PD-9 demand that participant-agreement is reached on a successful attack and defense of a propositional content and of its justificatory potential, and on a conclusive defense. Such definitions are effectively provided by SR-L, along with Asymmetric Burden (A2), to which we return below. Moreover, if we view the defense of a sub-standpoint, regulated in PD-9, to amount to winning a play, as opposed to winning a game, then SR-L and A2 jointly imply the content of PD-9.

PD-10 and PD-11 assign the right to attack and to defend undefended standpoints to the proponent and the opponent, respectively. We had only introduced a single standpoint, expressed as: C follows from P. Therefore, neither PD-10 and PD-11, nor their negations, apply to our argumentation-game; hence these rules cannot be violated, either; a fortiori they cannot be meaningfully called necessary. Having discussed PD-13 above, PD-14, which assigns an obligation to retract upon a conclusive defense, is implied by SR-L. Finally, PD-15 states an unconditional right to demand usage-declaratives. This is either not needed (when stipulating players to assign truth values without analyzing the meaning of literals) or assumption A1 states as much, but also more (see Sect. 3.2). Finally, PD-1, which denies special preparatory conditions on arguers or their arguments, can be viewed as being fulfilled, but has no direct or indirect counterpart in the assumptions A1 to A6.

In sum, the Code of Conduct does not bar logical argumentation from occurring as a result of playing, with suitable preferences, according to PD-rules. This being so is far from incidental, and should rather be viewed as a desired consequence of the PD model. At any rate, our rules and assumptions yield a limiting case of the Code, while it also became clear that the content of PD-rules that regulate agreement on a conclusive attack and defense are not needed as explicit rules. In Sect. 2, players' preferences as to how the game should be played were shown to arise on the assumptions A1 to A6. We now turn to these.

3.2 *The assumptions A1 to A6, and the HM rationality-principle*

Immediately above, *Meaning Coordination* (A1) was seen to be slightly stronger than PD-15, for A1 assumes players to coordinate successfully, while the Code

merely reserves the right to demand usage declaratives, without stipulating semantic success. *Asymmetric Burden* (A2) amounts to a definition of winning a play, and thus the game, for both PRO and OPP. It hence specifies PD-7 to PD-9, along with both of our structural rules, as discussed above. *Comparative Efficiency* (A3) spells out an assumption that seemingly fails to correspond to any PD-rule, but neither is A3 in violation of the Code. The same holds for the remaining three assumptions: *Termination over Frustration* (A4), *Imperfect Foresight* (A5), and *Common Knowledge* (A6). As stated, A4 characterizes a preference of players to rather seek playing the argumentation-game, while the constraint A5 mirrors players' cognitive limitation, of which A6 says that players know it. All assumptions are compatible with the Code.

Further, in PD, so-called higher-order conditions spell out additional features on arguers, for instance, their willingness to settle a dispute. See Zenker (2007b)for a non-exhaustive list of such conditions. We find it plausible to view A4 to A6 as higher-order conditions that describe what one might reasonably expect on behalf of boundedly rational players and their cognitive states. Also, endorsing HM as a rationality principle may be understood as a higher order condition. As we saw, HM ensures that, if an argumentation-game has a winning-strategy, then PRO or OPP will find it. Recognition of HM, or a principle similar to it, bars player X from assuming that Y plays anything but that strategy, or those strategies, on which Y eventually wins the game, if Y could win, and *vice versa*. Therefore, as HM states, the best response to any such Y-strategy is for player X to pursue a strategy that does not in principle fail to reach the same goal, so both players are kept from playing in ways that lead nowhere near the desired result anytime soon.

While HM amounts to a generalized form of pessimism, nothing in the Code keeps HM from applying to players or to their game. For idealized arguers – idealized with respect to possessing sophisticated game-theoretic knowledge – HM is clearly a reasonable choice. But we cannot find that HM would even be questionable for boundedly rational arguers. After all, when properly understood, the content of HM is hardly more complex than the final sentence of the previous paragraph. Put differently, failure to understand, or to endorse, HM would arise from cognitive, emotional, or perhaps ecological boundaries outside the normal range of boundedly rational agents. All the same, HM remains a genuinely game-theoretic principle of rational interaction. Its acceptance by players, as a rationality principle, cannot be motivated other than by explicitly viewing

argumentation as a game whose outcome depends on the way in which a strategy-profile, i.e., the particular pair of strategies chosen by X and Y, generates the game's outcome.

4. *Discussion*

The Code of Conduct provided by the Pragma-dialectical theory (PD) normatively governs attacks and defenses of a standpoint in a merit-based critical discussion aimed at a resolution of a difference of opinion, or consensus, where arguers assume the dialectical roles of proponent and opponent. This framework was seen to be consonant with attempts at capturing logic as formal argumentation, understood as a Wittgensteinian language game, as currently implemented in dialogical logic (DL) and game-theoretic semantics (GTS). All three approaches view natural language argumentation as an interactive process between a proponent, who states and argumentatively supports a thesis, and an opponent attacking it.

Logic is regularly equated with the rules one *should* apply to implement logical reasoning, thereby deriving a valid consequence from the premises; DL and GTS make no exception to this, as both represent logic in a game by imposing logical rules onto its players. Equating logic with its rules, however, is in conflict with the view ascribed to Wittgenstein, above: what matters in a language game are not the rules, but the players' goals and preferences. For players who self-regulate their argumentative conduct, the status of logical rules was consequently seen to be demoted to that of a description, useful for instance when instructing newcomers pursuing the same goals. Wittgenstein's view being in principle vindicated by the theory of games that DL and GTS build on, players can therefore dispense with such rules altogether, at least as primitive notions. Embracing this demotion of logical rules brings DL and GTS closer to their professed philosophical and methodological sources. So far, however, both DL and GTS do not yet characterize players who meaningfully *prefer* arguing logically, as opposed to being forced to do so.

We have indicated how to tell a different story: take a fragment of natural language (restricted to noun phrases, verb phrases, and any complements needed) no more expressive than a formal propositional language; then understand logical argumentation taking place between a proponent and an opponent as the outcome of a particular type of argumentation-game; finally, provide sufficient conditions under which players' preferences and abilities

restrict their argumentative moves to logically valid inferences. In this way, enforcing the consensus through the imposition of logical rules becomes superfluous, for logical rules now emerge from a game where well-defined preferences are ascribed to players who achieve meaning-coordination. Importantly, our assumptions about players' preferences and abilities were said to characterize *boundedly rational* agents, thus remaining much closer to human reasoners than to the ideal reasoners typically assumed in DL and GTS approaches.

Comparing what such assumptions induce with the Pragma-dialectical Code of Conduct, we observed a similarity between natural-language argumentation and logical argumentation that is far from incidental. Some of our assumptions on players' abilities and preferences were seen to be specifications of the Code's rules, or its higher order conditions, while assumptions that remained unrelated to the Code did not violate its normative content. Hence, logical argumentation can arise within the Pragma-dialectical framework for a critical discussion among boundedly rational players without assuming prior knowledge of, or explicit agreement on, the norms of logic. This being as it should be, we hope to have made understandable how logic can systematically emerge from natural language argumentative practice.

5. *Conclusion*

While our story here had ended with classical propositional logic, the main result presented in the present paper has been successfully extended to full classical first-order logic (Genot & Jacot, 2014). Consistent with the conjecture that a similar story can be told for logic's ontogenesis, only a natural language and boundedly rational players were taken to be necessary to make a first step towards a naturalization of logic. To carry this naturalization-attempt further, future research should be conducted in a theoretical and in an empirical manner. Similar argumentative accounts of logic should be extended to non-classical logics, by considering richer natural language fragments, for instance, as well as different goals and preferences. Moreover, assumptions that constrain players' preferences and abilities should be validated, e.g., in focus interviews, but also through systematic experimental work.

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NOTES

i. Logic had thus returned to its origins in argumentation, if one views Aristotelian logic to emerge from the argumentative practices in the Academy and the Lyceum (Robinson, 1971), being proceeded by the Socratic elenchus, among others. For a brief historical overview, see Dipert, Hintikka, & Spade (2014), and Hintikka (1996).

ii. Our use of 'internal' and 'external' breaks with standard game-theory where preferences are part of the definition of a game set-up, and in this sense internal to the game, while restrictions imposed on players' strategies to guarantee a proof are called externalities whenever being independent of such preferences.

iii. Viewed syntactically, P is a set of grammatically well-formed L-sentences, so to prove C is to demonstrate that, using only the grammatical rules of L, C can be obtained by a transformation and a combination of P-members.

iv. A tentative explanation why this option had not been considered much earlier, crucially in the Erlangen school (see Krabbe (2006)), is that the requisite reasoning had (falsely) been viewed to demand of players abilities that are equivalent to mathematical induction. After all, in logic and proof theory, it is mathematical induction that is normally used to reason about logical proofs (aka meta-logic or meta-mathematics). However, mathematical induction is here required only to prove that a given proof strategy will be successful, but is not required to implement a proof strategy. So a game-theoretic approach to logic could well have internalized reasoning-about-proofs within a given proof, and thus strictly subordinate logical reasoning to meta-logical, or meta-.

v. Non-logical terms comprise noun-phrases, verb-phrases, etc.; disambiguating these is understood to be part of linguistic competence.

vi. Unlike A1 to A5, which are both necessary conditions to obtain proofs from games, A6 is sufficient but not necessary. Also a weaker assumption may do, such as a belief in the other player's rationality (see Genot & Jacot (2014)).

vii. Genot & Jacot (2014) use pointing to abstract representations such as vertices and edges of a graph to disambiguate atoms, where a vertex represents an individual, and a labeled path of length n represents an n-ary predicate. The

representations are motivated cognitively, as they share properties of perceptual representation.

viii. Agreement to consider some, but not all possibilities compatible with P yields a non-monotonic logic where, once drawn, a previously agreed-upon conclusion can nevertheless be retracted if this agreement is subsequently revised, for instance upon taking into consideration additional possibilities, including counterexamples formerly disregarded. Such agreement is independent of the player's agreement on L, and so depends on their preferences.

ix. The most detrimental strategy, aka the worst case, for X is not always the best case for Y. In our games, the worst case for either player is to be denied victory in a play through the other player's use of a delaying tactic. But this tactic is never the best one for any player using it. After all, the outcome of the game would be unnecessarily delayed, so both players would incur a loss, and so both players' preferences (as expressed in A3 and A4) would be satisfied to a lesser degree.

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