ISSA Proceedings 1998 – Modelling Contractual Arguments

1. Introduction

One influential approach to assessing the "goodness" of arguments is offered by the Pragma-Dialectical school (p-d) (Eemeren & Grootendorst 1992). This can be compared with Rhetorical Structure Theory (RST) (Mann & Thompson 1988), an approach that originates in discourse analysis. In p-d terms an argument is good if it avoids committing a fallacy, whereas in RST terms an argument is good if it is coherent. RST has been criticised (Snoeck Henkemans 1997) for providing only a partially functional account of argument, and similar criticisms have been raised in the Natural Language Generation (NLG) community – particularly by Moore & Pollack (1992) – with regards to its account of intentionality in text in general.

Mann and Thompson themselves note that although RST can be successfully applied to a wide range of texts from diverse domains, it fails to characterise some types of text, most notably legal contracts. There is ongoing research in the Artificial Intelligence and Law community exploring the potential for providing electronic support to contract negotiators, focusing on long-term, complex engineering agreements (see for example Daskalopulu & Sergot 1997). The negotiation process, which is a lengthy cycle of proposal and counter-proposal, can be seen as inherently argumentative in nature with each party involved trying to influence the agreement in a way that best serves their own interests. The negotiation process is conducted by parties exchanging proposed drafts of the contract, where each draft represents an argument put forward by one party to persuade the other. Furthermore the internal structure of any given contractual document can be analysed as an implicit discussion where an implicit opponent makes requests for clarification and specification (particularly of contingencies that might arise). Supporting these aspects of contracts depends upon a rich model of the argumentative structure of the complex pre-contractual documents, and it is therefore disappointing that RST fails to account for such text.

It has also become clear (Reed 1998) that RST is fundamentally inappropriate for representing argument structure in three important respects: RST admits multiple analyses of a given piece of text and this is in direct contrast to the

argumentation theoretic approach; particular structures that are frequently encountered in arguments are not catered for by RST; and finally, patterns of reasoning that underlie an argument (such as modus ponens, inductive generalisation and so on) can neither be represented by, nor inferred from an RST analysis (and even more so where multiple analyses exist).
This paper provides a brief introduction to RST and illustrates its shortcomings with respect to contractual text. An alternative approach for modelling argument structure is presented (extending Reed & Long 1997a) which not only caters for contractual text, but also overcomes the aforementioned limitations of RST. Finally it is shown that this approach meets the criticisms expressed by both Snoeck Henkemans (1997) and Moore and Pollack (1992) by offering a truly functional account of illocutionary purpose.

2. An overview of rhetorical structure theory
2.1 RST assumptions, methodology and basic concepts
Rhetorical Structure Theory (RST) developed by Mann and Thompson (1987; 1988) purports to evaluate text (including arguments) in terms of its coherence. The characteristics of RST as a descriptive framework for natural text are:
(i) It describes relations between parts of text in functional terms, whether such relations are grammatically signalled or otherwise.
(ii) It identifies hierarchical structure in text.
(iii) Its scope is written monologue and it is insensitive to text size.

RST is put forward as a unifying framework, applicable to virtually any natural text of any size. An RST analysis of natural text operates within the following assumptions: The analyst has access to the particular text that is analysed, but no direct access to either the writer or the reader of such text. The analyst however knows the context in which the given text was written and shares the cultural conventions of both the reader and the writer of the text. The purpose of the analysis is to make explicit the function of the text along two dimensions, namely the writer's intention and the reader's comprehension; thus text is assessed on how effectively the writer's intentions are communicated to the reader.

The analysis is conducted by identifying relations between text spans (that is, uninterrupted linear intervals of text). A number of relations that can obtain between text spans have been identified by Mann and Thompson and are summarised in the following table:

Table 1 Organization of the Relation Definitions (Mann & Thompson 1987)

Circumstance	Antithesis and Concession
Solutionhood	Antithesis
Elaboration	Concession
Background	Condition and Otherwise
Enablement and Motivation	Condition
Enablement	Otherwise
Motivation	Interpretation and Evaluation
Evidence and Justify	Interpretation
Evidence	Evaluation
Justify	Restatement and Summary
Relations of Cause	Restatement
Volitional Cause	Summary
Non-Volitional Cause	Other Relations
Volitional Result	Sequence
Non-Volitional Result	Contrast
Purpose	

Table 1- Organization of the Relation Definitions (Mann & Thompson 1987)

Mann and Thompson note that the set of relations that they have identified is not necessarily complete and that additional relations may be added to that if the analyst finds that none of those serve his purpose adequately.

Each relation is defined between two non-overlapping text spans with one of these labelled the nucleus and the other as the satellite of the relation. Though RST does not provide an explicit direction about how these labels are decided it appears that the nucleus is the text span that contains essential information, in that its absence would reduce the meaningfulness of the text.

A relation definition comprises four fields: constraints on the nucleus (N), constraints on the satellite (S), constraints on the combination of nucleus and satellite (N+S) and the effect. For example the definition of the relation JUSTIFY is:
Relation Name: JUSTIFY
Constraints on N: none
Constraints on S: none
Constraints on N+S:
Reader’s comprehending S increases Reader’s readiness to accept Writer’s right to present N.
The effect: Reader’s readiness to accept Writer’s right to present N is increased.
Locus of the effect: N.

To illustrate relation definitions further, consider another example, the definition of the relation ELABORATION:
Relation Name: ELABORATION
Constraints on N: none
Constraints on S: none
Constraints on N+S:
S presents additional detail about the situation or some element of subject matter which is presented in N or inferentially accessible in N in one or more of the ways listed below. In the list if N presentes the first member of any pair, then S includes the second:
1. set: member
2. abstract: instance
3. whole: part
4. process: step
5. object: attribute
6. generalization: specific

The effect: Reader recognizes the situation presented in S as providing additional detail for N. Reader identifies the element of subject matter for which detail is provided. Locus of the effect: N and S.

A relation between two text spans is pictorially represented by a structure diagram in figure 1:

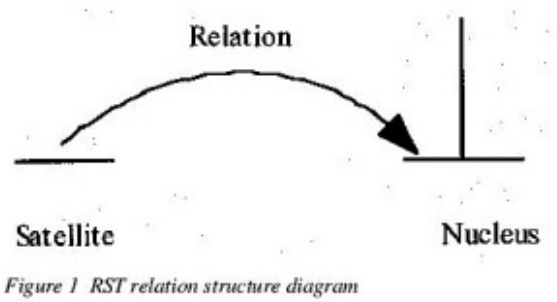

Figure 1 RST relation structure diagram

Figure 1 RST relation structure diagram

Each such relation is an elementary structure of the text that is analysed. Mutliple relations can be arranged into composite structures, that is patterns that define how a large span of text is analyzed in terms of other spans. Such composition of

elementary relations is subject to the following constraints:
(i) Completeness: The top level of the structure contains all the text spans constituting the entire text.
(ii) Connectedness: Except for the entire text as a text span, each text span is either a minimal unit contributing as nucleus or satellite in a relation (elementary structure), or a constituent of a composite structure.
(iii) Uniqueness: Each structure consists of a different set of text spans and each relation within a structure applies to a different set of text spans.
(iv) Adjacency: The text spans of each structure constitute one text span.

As Mann and Thompson (1987) note completeness, connectedness and uniqueness taken in conjunction entail that RST analyses of texts yield hierarchical tree structures. The leaves of such a structure taken from left to right correspond to the entire text in the linear order in which they appear in it.

To illustrate these concepts RST analysis was conducted on a randomly chosen piece of text, in which text spans are numbered to facilitate reference:
1. The wealth of societies in which the capitalist method of production prevails, takes the
2. form of an “immense accumulation of commodities”,
3. wherein individual commodities are the elementary units.
4. Our investigation must therefore begin with an analysis of the commodity.
5. A commodity is primarily an external object,
6. A thing whose qualities enable it, in one way or another, to satisfy human wants.
7. The nature of these wants, whether for instance they arise in the stomach or the imagination, does not affect the matter.
8. Nor are we here concerned with the question, how the thing satisfies human want, whether directly as a means of subsistence(that is to say, as an object of enjoyment), or indirectly as a means of production.

Example 1: Karl Marx, Capital, vol. 1, J. M. Dent & Sons Ltd. The analysis of this text gave rise to the hierarchical structure shown in figure 2.

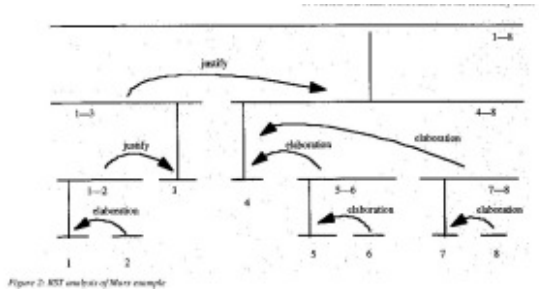

Figure 2: RST analysis of Marx example

2.2. Operationalisation of RST

One powerful application of RST is to the field of natural language generation (NLG): if a system has a goal to communicate information to a hearer, how can that goal be fulfilled? RST offers a way of planning text by viewing each rhetorical relation as an operator – a step which has precisely defined requirements and effects. Text generation is then a task of creating a sequence of these operators such that the requirements of the first are true in the initial, pre-discourse state, and the effects of the last include the desired communicative goal (Hovy 1988). This sequence of rhetorical relations can then be refined to the appropriate grammatical and lexical form by more established realisation techniques.

3. Critique of RST

3.1. Fundamental problems with RST

Although Rhetorical Structure Theory has been a highly popular technique in NLG (Hovy 1993), it has become clear from the demands of discourse generation that RST has a key failing with respect to the purported claims of functional adequacy. The conflation of informational (i.e. rhetorical, structural) and intentional (i.e. illocutionary) content leaves text generation systems without a means for recovering from communicative failure (such as the hearer misunderstanding) and answering follow-up questions (Moore & Pollack 1992). More recently, this conflation has also been recognised as a problem for an RST-based analysis of argument: Snoeck Henkemans (1997) concludes that the account could at best be “partly functional”. RST also suffers, however, from a more fundamental problem which becomes manifest in argument analysis. Despite Mann and Thompson’s opening claim that “it is insensitive to text size”, RST seems to be unable to adequately represent the high level abstract structure of argument. This intuitive shortcoming is a result of several assumptions upon which the account is founded. Mann and Thompson discuss the key role played

by the notion of nuclearity – that relations hold between one nucleus and one satellite. They do, however, concede (Mann & Thompson 1987, p.269) that there are a few cases in which nuclearity breaks down – and these they regard as rather unusual. The two types of multi-nuclear constructs they identify are enveloping structures – "texts with conventional openings and closings" – and parallel structures – "texts in which parallelism is the dominant organizing pattern". Both of these are not just common in argument, but form key components. Enveloping structures are precisely what are described by, for example, Blair (1838), when presenting the dissection of argument into introduction, proposition, division, narration, argumentative, pathetic and conclusion (these are by no means obligatory in every argument, nor is there any great consensus over this particular characterisation; most authors, however, would agree that some such gross structure, usually involving introduction and conclusion, is appropriate). These structures are found with great frequency in natural argument, and cannot, therefore, be ignored. Parallel structures form the very basis of argument, since only the most trivial will involve lines of reasoning in which a single premise supports a single conclusion. Multiple subarguments conjoined to support a conclusion are the norm (see for example, (Cohen 1987), (Reed & Long 1997b) and these, necessarily form parallel structures.

Another point of dissonance between RST and argument analysis is that it is accepted that a text may be amenable to multiple RST analyses – not just as a result of ambiguity, but because there are, at a fundamental level, "multiple compatible analyses". Mann and Thompson (1987, p. 265) comment: "Multiplicity of RST analyses is normal, consistent with linguistic experience as a whole, and is one of the kinds of pattern by which the analyses are informative". This contrasts with the view in argumentation theory, where one argument has a single, unequivocable structure. There may, of course, be practical problems in identifying this structure, and two analysts may disagree on the most appropriate analysis (and indeed this latter has a close parallel in RST, since different analysts are at liberty to make different 'plausibility judgements' as to the aims of the speaker). The presence of these problems, however, is not equivalent to claiming that arguments may simply have more than one structure, a claim which would pose insurmountable problems to the evaluation process (the presence of inherent structural multiplicity would present the possibility of an argument being simultaneously evaluated as good and bad).

Finally, there is a more intuitive problem with RST, highlighted by analysing argument structure. Although there is much debate over the number and range of rhetorical relations (e.g. (Knott & Dale 1996), (Hovy 1993)) there seems to be no way of dealing with the idea of argumentative support. In the first place, as Snoeck-Henkemanns (1997) points out, Motivation, Evidence, Justification, Cause, Solutionhood and other relations could all be used argumentatively (as well, of course, as being applicable in non-argumentative situations). Thus it is impossible to identify an argumentative relation on the basis of RST alone. Secondly, RST offers no way of capturing higher level organisational units, such as Modus Ponens, Modus Tolens, and so on. For although their structure (or at least the structure of any one instance) can be represented in RST – and, given Marcu's (1996) elegant extensions,
even their hierarchical use in larger units – adopting this approach necessitates a lower level view. It becomes no longer possible to represent and employ an MT subargument supporting the antecedent of an MP; rather, the situation can only be characterised as P supporting through one of the potentially argumentative RST relations Q, and showing that ~Q, so ~P, and ~P then supporting through one of the potentially argumentative RST relations R, therefore R. Apart from being obviously cumbersome, the representation has lost the abstract structure of the argument altogether, and is not generalisable and comparable to other similar argument structures. (It could perhaps be maintained that such structures could be represented as RST schemas, but there are several problems with such an approach: in the first place, schemas cannot abstract from individual relations, so there would need to be a separate 'MP' schema for each possible argumentative support relation; furthermore, the optionality and repetition rules of schema application (p248) are not suited to argument, as they license the creation of incoherent argument structure).

3.2. RST analysis of contractual text

Legislation and legal contracts have, in recent years, been the focus of much research mainly in the Artificial Intelligence community. A recent research project was concerned with the development of electronic tools to support contractual activity, especially negotiation of long-term, complex engineering agreements (Daskalopulu & Sergot 1997; Daskalopulu 1998). The negotiation of such contracts is a lengthy cycle of proposal and counter-proposal between two parties, and it can be seen as inherently argumentative in nature as each party tries to influence the agreement in a way that best serves their own interests. The

negotiation is typically conducted by parties exchanging drafts of the proposed contract; each such draft may be regarded as an argument put forward by one party with the intention to persuade the other. Supporting such negotiation could benefit substantially by some means of assessing the communicative effect of contractual text. Moreover, establishing the functional
roles of various contractual provisions within a contract is important for another aspect of contractual activity: in litigation situations the courts of law are supposed to rule for or against a party's motion by interpreting the agreement and trying to establish the parties' intentions at the time of making it, using contractual documents as a guide. Under the English law of contract (and to the best of our knowledge in most other legal traditions) the *parol evidence* rule applies, whereby in the presence of written contracts the text is taken to express all that the parties agreed and only that (Atiyah 1989). A court of law in a litigation situation is therefore concerned with establishing the writers' (the parties') intentions as these are manifested through the text they upon which they agreed.

Mann and Thompson (1987, p. 265) note: " Certain text types characteristically do not have RST analyses. These include laws, contracts, reports "for the record" and various kinds of language-as-art, including some poetry". The reasons for this inapplicability of RST to these kinds of text are not documented**[i]** by Mann and Thompson though.

In an effort to uncover such reasons a conventional RST analysis of contractual text is presented below. The experiment demonstrates not that RST is inapplicable to contractual text, but rather, that there are a number of important points. Figure 3 represents an RST analysis of an extract from an agreement on arbitration.

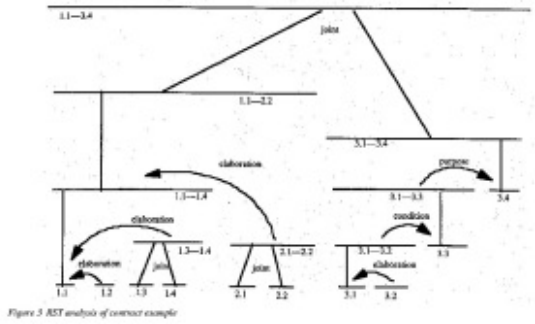

Figure 3: RST analysis of contract

example

1.1. The arbitral tribunal shall be composed of three members,
1.2. one to be appointed by each party
1.3. and the third member, who shall act as president,
1.4. to be appointed by the ppointing authority.
2.1. The member of the tribunal appointed by the first party shall be me and address
2.2. The member appointed by the second party shall be me and address.
3.1. If at any time a vacancy shall occur on the Tribunal
3.2. by reason of the death, resignation, or incapacity for more than 60 days of any member, or for anyother reason,
3.3.such vacancy shall be filled as soon as possible
3.4.in the same manner as the original appointment of that position.
Example 2: Model Business Contracts, Croner Publications Ltd. 1988

The RST analysis of example 2 highlights the central role of the analyst's judgement in identifying text spans and in determining which relation applies between them (incidentally, this was also the case for the Marx example). The text span comprising 1.3-1.4 could for example be regarded as providing BACKGROUND to 1.1. Similarly, 2.1-2.2 might have been regarded as being JOINT to 1.1-1.4**[ii]**. Moreover the set of relations supported by RST is not necessarily complete; should none of the defined relations be deemed satisfactory to account for the relationship between two text spans, it seems that the analyst may make up a new one, as long as the definition conforms with the RST framework (by specifying all four of its fields). Mann and Thompson point out that the analyst has in effect to make plausibility judgements about the writer's intention and the reader's comprehension and this gives rise to multiple RST analyses for the same piece of text. In seeking a functional account of contractual text however negotiating parties and courts of law would require something more conclusive.

The functional account that is appropriate for contractual text (for the purposes mentioned earlier) is very different from the one provided by RST. The constraints for completeness, connectedness, uniqueness and adjacency imposed by RST result in tree-like structures for linear text with each text span having a unique effect (a unique functional role) within a single analysis. Contract documents are

organized in a tree-like structure syntactically, that is they are organized in parts, where each part contains sections, and the latter contain provisions which can further be analyzed in terms of their constituent sentences and so on. Semantically however contract documents are organized as graphs, with a heavy amount of cross-referencing and provisions playing multiple roles. For example (cf. Daskalopulu & Sergot 1997) a contractual provision may be providing a definition for a term, prescribing duties and rights for the parties, specifying a procedure that needs to be followed for certain goals to be achieved (the contract example presented earlier contained such procedural specification) and so on. The functional account that is required for contractual text is therefore one that caters for non-linear text and allows one text span to participate in multiple relations reflecting the diverse functional roles it plays within the agreement.

Revisiting the contract example earlier, the following diagram illustrates the kind of functional account that is desirable:

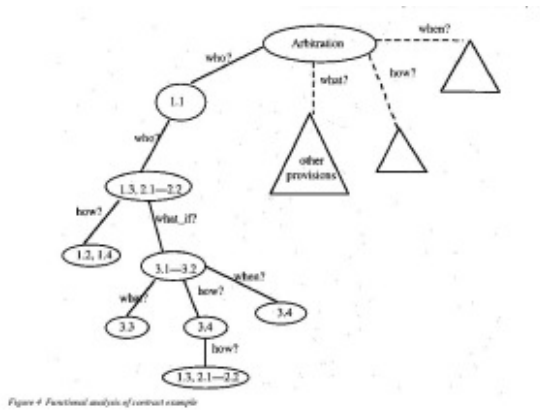

Figure 4: Functional analysis of contract example

The diagram shows the tree that corresponds to the graph for the text excerpt (that is, instead of repeating some nodes arcs essentially point to them directly). Each of the who/how/what/what_if arcs can be treated in a uniform way as a specification of various kinds. The functional account of a large agreement dealing with a multitude of issues (for example, billing and payment arrangements, force majeure provisions, quality monitoring and so on) is a collection of such interrelated structures.

Finally, though there is a persuasive nature to contracts – reflected in drafts exchanged by parties – with each participant trying in a competitive manner to

secure the “best” terms for him, there is also a deliberative aspect: on a variety of issues the parties deliberate on the manner which is best suited to operationalise their agreement**[iii]**. The contract example mentioned earlier is appropriate to illustrate this: parties are not in direct competition as regards the appointment of an arbitratory tribunal; rather they may argue for or against, say the number of members of the tribunal, or the time allowed for a vacancy to exist before it is filled, in an effort to cater for contingencies that might arise in the future. In effect they are arguing but not necessarily for their own narrow interests but rather for the best way that allows the business exchange to proceed smoothly. The approach proposed in the following section extends RST in a manner that enables both argumentative and deliberative accounts to be represented in a single framework.

4. A new approach

To address the fundamental problems noted in section 2 and particularly the last one in section 2.1, and to provide a platform for representing the functional effects of contractual text, an alternative approach is proposed whereby RST is subsumed by a layer which explicitly represents argumentative constructs (Reed 1998), (Reed & Long 1997a). At this layer, support relations between propositions are reified, and are employed in defining the structure of argument. These structural relations are then operationalised to enable planning with operators encapsulating the various argument forms (MP, MT, inductive generalisation, etc.). The definitions of the operators make extensive use of intentional constructs thus avoiding the problems outlined by (Moore & Pollack 1992) (so that, e.g., the MP operator has the effect of increasing the hearer’s belief in a proposition).

The argumentative structures represented at this abstract layer can be mapped on to the most appropriate set of RST relations (thus, for example, the implicature in an MP may be realised into any one of the potentially argumentative relations mentioned above). The approach thus maintains the generative capabilities of RST (particularly when extended along the lines of (Marcu 1996) to ensure coherency through adducement of canonical ordering constraints), whilst embracing the intuitive argumentative relationships at a more abstract level. It is these latter relationships which characterise the structure of the argument (i.e. the structure which argumentation theory strives to determine). The relationships are also unambiguous: a single argument has exactly one structure at this level abstraction (though multiplicity is not thereby prevented at the RST level). Further, parallelism occurs only at the higher level of abstraction (multiple

subarguments contribute to a conclusion, but each subargument is mononucleaic), and similarly, enveloping structures are also characterised only at the higher level (thus the RST is restricted to a predominantly mononucleaic structure). Finally, complete argument texts are not obliged to have complete RST trees. For although most parts of a text are likely to have unifying RST analyses, and although there must be a single overarching structure at the highest level of abstraction, the refinement to RST need not enforce the introduction of rhetorical relations between parts. This expands the flexibility and generative capacity of the system encompassing a greater proportion of coherent arguments.

Though motivated by the requirements of sophisticated text generation, the model tackles many of the problems inherent to RST-only analysis. In particular, it offers a fully functional account by distinguishing the intentional and informational components of text structure, and answers Snoeck Henkemans criticisms by enabling argumentative relations between textual units to be handled explicitly. The structures generated by, and represented in, the system are essentially those characterised by Freeman (1991) as the 'standard treatment', whereby propositions can serve as premises or conclusions connected by convergent or linked support (it is recognised that there are, of course, much richer characterisations and diagrammatic techniques for investigating argument structures – Freeman himself develops one such – but the standard treatment offers a simple, tractable, and sufficiently expressive account to be of great interest).

Although the work in (Reed 1998), (Reed & Long 1997b) focuses specifically upon persuasive argument, the same approach can be adopted towards the inherently deliberative internal structure of parts of a contract. In particular, that structure can be represented diagramatically using nodes to represent propositions and arcs to represents relations between them. In the same way that a persuasive argument can be seen as an implicit dialogue, whereby each statement of the writer has been elicited by some implicit question (of relevance or ground adequacy), a contract too can be viewed as inherently dialectical, whereby an implicit opponent may offer questions forcing specification: the who question demanding role instantiation; the when question demanding temporal specification; the how question demanding specification of means; and, most frequently, the what-if question, demanding specification of contingency action. It is these questions which characterise the relationships between nodes in the contract graph. With an isomorphic relationship between the structure of

persuasive discourse and that of deliberative discourse, the techniques developed for computational representation of the former can also be applied to the latter.

5. Conclusions and future work

Rhetorical Structure Theory, though a competent model of small scale text structure with wide applicability in both discourse analysis and natural language generation, suffers from a range of problems many of which become insurmountable when considering its application to large scale arguments and contracts. A more abstract level of representation, subsuming RST, is required to provide a functional account of the complex structure and interdependencies present in such text. The representation developed for handling the structure of persuasive text has been shown to cope with contractual text as a result of an isomorphism in the structure of the two genres, and in particular, that it can be appropriate to view each as an implicit discussion. Current work is exploring in more detail the practical advantages such a computational representation may afford. In particular, a means of representing and manipulating the large scale structure of a contract may be of use in supporting the drafting, negotiation and litigation activities through provision of a tool for navigation and referencing of a large contractual agreement (such agreements may often run to hundreds of pages and have a dynamic nature running over many years). An integration with the work of (Daskalopulu & Sergot 1995), and with others working on legal information systems thus represents a potentially fruitful avenue of investigation. A more ambitious aim is to extend the model presented in (Reed 1998) to cover the automatic generation of contract structure, fulfilling either a role of critic of human generated contracts, or one of preliminary authoring in well defined domains.

NOTES

[i] Although in the case of language-as-art or some poetry they might be obvious: it is not necessarily the case that the writer's intention is to convey some particular message to the reader, rather it might be to create a particular emotional effect with which the functional account of RST is not concerned.

[ii] JOINT is actually a means of composing elementary structures into compound ones (a schema application in Mann and Thompson's terms). Here we treat it just as a vacuously defined relation, that is, there is no specification of constraints on nucleus, satellite or their combination and no effect. The result is identical to that of Mann and Thompson's.

[iii] This distinction between notions of persuasion and deliberation is adopted from (Walton and Krabbe 1995).

REFERENCES

Atiyah, P. S. (1989). *An Introduction to the Law of Contract.* Oxford: Clarendon Press (4th edition).

Blair, H. (1838). *Lectures on Rhetoric and Belles Lettres*. London: Charles Daly.

Cohen, R. (1987). Analyzing the Structure of Argumentative Discourse. *Computational Linguistics*,13(1), 11-24.

Daskalopulu, A. (1998): *Logic-based Tools for the Analysis and Representation of Legal Contracts*. Doctoral Dissertation. Imperial College London (forthcoming).

Daskalopulu, A. & M. J. Sergot (1997): The Representation of Legal Contracts. *AI and Society* 11, 6–17.

Daskalopulu, A. & M. J. Sergot (1995): A Constraint-Driven System for Contract Assembly. In: *Proceedings of the 5th International Conference on Artificial Intelligence and Law*, University of Maryland, College Park, ACM Press, 62–69.

Eemeren, F. H. van & R. Grootendorst (1992). *Argumentation, Communication and Fallacies. A Pragma-Dialectical Perspective*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Freeman, J.B. (1991) *Dialectics and the Macrostructure of Arguments*. Dordrecht: Foris.

Hovy, E.H. (1988). *Planning Coherent Multisentential Text. In Proceedings of the 26th Annual Meeting of the Association for Computational Linguistics* (ACL'88), 163-169.

Hovy, E. H. (1993). Automated Discourse Generation Using Discourse Structure Relations. *Artificial Intelligence*, 63, 341–385.

Knott, A. & R. Dale (1996). Choosing a Set of Coherence Relations for Text Generation: A Data-Driven Approach. In: *Adorni*, G., & M. Zock (eds), Trends in NLG: An AI Perspective–Selected Papers from EWNLG'93 (LNAI Vol. 1036), Springer Verlag, 47–67.

Mann, W. C. & S. A. Thompson (1987). Rhetorical Structure Theory: A Theory of Text Organization. In: Polanyi, L. (ed.) *The Structure of Discourse*, Norwood, N. J. : Ablex Publishing Corporation.

Mann, W. C. & S. A. Thompson (1988). Rhetorical Structure Theory: Toward a Functional Theory of Text Organization. *Text 8*, 243-281.

Marcu, D. (1996). Building Up Rhetorical Structure Trees. In: *Proceedings of AAAI'96*, Portland, Oregon.

Moore, J. D. & M. E. Pollack (1992). A Problem for RST: the Need for Multi-level Discourse Analysis. *Computational Linguistics*, 18(4), 537-544.
Snoeck Henkemans, A. F. (1997). Verbal Indicators of Argumentation and Explanation. In: *Proceedings of the Second Conference of the Ontario Society for the Study of Argument* (OSSA 97).
Reed, C. A. (1998). *Generating Arguments in Natural Language.* Doctoral Dissertation, University College London. (forthcoming)
Reed, C. A. & D. P. Long (1997a). Content Ordering in the Generation of Persuasive Discourse. In: *Proceedings of the 15th International Joint Conference on Artificial Intelligence* (IJCAI 97), Morgan Kaufmann, 1022-1028.
Reed, C.A. & D. P. Long (1997b). Multiple Subarguments in Logic, Argumentation, Rhetoric and Text Generation. In: Gabbay, D.M., et al. (eds) *Qualitative and Quantitative Reasoning*, Springer Verlag, 496–510.
Walton, D.N. & E. C. W. Krabbe (1995). *Commitment in Dialogue: Basic Concepts of Interpersonal Reasoning.* New York: State University of New York Press.

ISSA Proceedings 1998 – Argumental Deduction: A Programme For Informal Logic

1. A remark on logical practices

The business of logic is to provide us with the wherewithal for the evaluation of arguments. Not everyone will agree with so blunt a statement but most will accept it as close enough to the truth insofar as logic figures in argumentation and argumentation theory.

I want to begin by looking at some of our logical practices. By a 'logical practice' I mean a logical method, even if it is only loosely defined, that is used more or less widely.

Consider first propositional logic set up as a natural deduction system. This is one of our logical practices. With this method we identify an argument's premises and

conclusion, write them in the syntax of propositional logic and then, by as many applications of valid inference rules as needed, we write a series of sentences the last of which is the argument's conclusion. If we are successful we have a proof that the conclusion follows logically from the premises, i.e., that the argument is valid. Using the Venn diagram method for testing syllogisms is another of our logical practices. We map only the argument's premises on the diagram and then examine it to see whether the given conclusion is present. The syllogism is valid just in case expression of the premises on the diagram is at once an expression of the conclusion too.

As a last example of one of our logical practices, think of informal logic. Not a few informal logicians teach that an argument is good only if the premises satisfy three conditions. One of these conditions is that they must be acceptable. The others are that the relationship between the premises and the conclusion must be such that the premises are relevant to the conclusion, and sufficient for the conclusion.

What these three kinds of logical practice, and some others, have in common is that they seek to evaluate arguments by examining the relationship between an argument's premises and its conclusion directly. Each method requires that we determine whether the conclusion follows from the premises; that is, given the premises, the question is "by the standards in use, can the conclusion be said to be a logical consequence of the premises?". It might not true. Consider, for example, the practice of logical analogies.

In evaluating arguments by logical analogy we proceed as follows:

A target argument, H, is presented for evaluation. A familiar argument, B, known to be a bad argument, is held to be structurally similar, or parallel, to argument H. Hence, H is a bad argument. For example, let the argument to be evaluated be

No liberals are conservatives
All liberals are supporters of socialized medicine
So, No conservatives are supporters of socialized medicine

The logical badness of this argument is demonstrated by the following analogous, and obviously bad, argument.

No historians are logicians
All historians are clever
So, No logicians are clever

Of course, although this is not much stressed in the literature, arguments can also be shown to be good by the method of logical analogy.

The point I want to make here, however, is that the practice of using logical analogies to evaluate arguments is quite dissimilar to the three practices I described earlier. The analogical method does not ask whether the conclusion follows from the premises according to a set of norms for 'following from'. At least it does not address this question directly. Rather, the method of logical analogies sorts arguments whose logical value is not obvious into good or bad, according to whether they are analogous to arguments taken to be good, or bad. Hence, by the method of logical analogy, the question of whether the conclusion follows from the premises is decided indirectly: if the argument is analogous to a logically good argument, then the target argument is a good one too, and we infer that its premise-conclusion relation is in order; if the target argument is analogous to a bad argument, it is also a bad argument, and we infer that the conclusion does not follow from the premises (according to the relevant standards).**[i]**

2. Aristotle's method

In the *Prior Analytics* Aristotle invented formal logic. He not only identified a class of valid syllogisms, he also gave a systematic proof of the validity of each of them. Briefly outlined, his method was to identify four first figure syllogisms which were obviously valid, and then prove that the other non-obviously valid syllogisms in the second and third figures were valid by showing that they could be reduced to one or another of the first figure syllogisms. Reduction to the first figure is accomplished either (a) by weakening the premises of the syllogisms being reduced, or

(b) by strengthening its conclusion, or

(c) by argument transposition.

Here 'weakening' means replacing a premise by its converse: I and E propositions convert without restriction, A propositions convert by limitation, i.e., SaP – PiS, but not vice versa (Corcoran 1983). Here is an example.

Celarent (SF)
Celarent

Camestres

(i)	(ii)	(iii)	(iv)	
BeC	AaB	AaB	AaB	
AaB	BeC	BeC	tab	CeB
AeC	AeC	tab CeA	CeA	

The reduction reads from right to left. Camestres, a second figure syllogism, is being reduced to the first figure syllogism, Celarent. The first move is from (iv) to (iii) where the minor premise has been converted from 'CeB' to 'BeC'. The second move is from (iii) to (ii) where the conclusion has been converted ('CeA' to 'AeC'). Finally, in (i), (ii) has been rewritten in conventional form so it is easily recognizable as Celarent.**[ii]** This constitutes a proof of the validity of Camestres in Aristotle's system. The whole proof of all the valid syllogisms is largely encoded in the Medieval mnemonic, "Barbara, Celarent …".

Aristotle is aware that valid syllogisms may reduce to invalid syllogisms as well as valid ones (Corcoran 1983). For example, Camestres might be reduced to

Camestres
BiA AaB
CeB
CeB
CeA
CeA

The syllogism on the left is invalid. Invalid syllogisms, however, only reduce to other invalid syllogisms whereas second and third figure valid syllogisms reduce to at least some valid first figure syllogisms. The other kind of argument reduction Aristotle employs we may call an indirect method; it uses argument transposition. For example, on one of the third figure syllogisms, Bokardo, one performs the following operation. Mutually exchange the positions of the major premise and the conclusion, and negate them both. The
result is:

Re-lettered	transposed	Bokardo
(i)	(ii)	(iii)
MaP	SaP	MoP
SaM	MaS	MaS
SaP	MaP	SoP

Again, I write the reductions from right to left. Bokardo is stated at (iii); at (ii) the transposition is made, and at (i), (ii) is re-lettered to be clearly identifiable as Barbara.

Let us make a few summary points about Aristotle's method of reduction.
1. Some arguments – the perfect four – are taken as good arguments; they are not demonstrated as good by the method of reduction, but assumed as good, and needed for the method to work.
2. The method works by relating arguments whose logical status is unclear to arguments that are taken as logically good.
3. This 'relating' is done by argument reduction; that is by 'weakening' the premises, 'strengthening' the conclusion, or by argument transposition. Lastly,
4. it is a feature of Aristotle's syllogistic reduction system that non-basic good arguments reduce to both good and bad arguments whereas bad arguments reduce only to other bad arguments.

3. Generalizing Aristotle's idea
Aristotle's reduction system is a system of argumental deduction. Such systems contrast with sentential deduction systems. Corcoran explains the difference as follows.

Opposed to the sentential deductions (which are lists of sentences) there are those which are lists of arguments. Systems which consist entirely of lists of arguments are called *argumental deductive systems*. … In creating an argumental deduction one does not start with premises and proceed to a conclusion but rather one takes *ab initio* certain simple arguments and constructs from them, line-by-line, increasingly complex arguments until the argument with desired premises and conclusion is reached. In argumental systems the rules produce arguments from arguments (not sentences from sentences) (Corcoran 1974: 176).

With this distinction in hand, the observations made earlier about our logical practices can be restated. Our dominant logical practices are methods of sentential deduction. (The term 'statemental deduction' is preferable for us, since we will be concerned with natural language argumentation.) Aristotle's system of syllogism reduction, however, is a method of argumental deduction. Argument by logical analogy should also be thought of as a kind of argumental reasoning since it turns on evaluating an argument by comparing it to another argument. Logical analogies do not, however, seem to be a kind of argumental deduction.**[iii]**

4. Johnson's intuition
Let us now turn to an important point made by Ralph Johnson. In his essay on theories of evaluation Johnson lists a number of intuitions which he thinks any

worthwhile theory of rational argumentation must accommodate. One of these is that "arguments exist in a continuum from strong to weak" (Johnson 1992: 149). Johnson explains:

A theory of evaluation that accommodates this intuition must have more possibilities than just good and not-good. It should provide a spectrum with points along the way. It should turn out that arguments can be very strong, strong, moderately strong, weak, poor, etc. (Johnson 1992: 149).

I agree with Johnson on this point. Strange it is that automobiles, students's essays, works of art etc. – all human artifacts – are ranked from the abysmally abominable through a fair number of intermediate grades right up to the perfectly wonderful, and that arguments aren't. Or, rather, we should say, that although we do recognize the fact that arguments exist in a continuum from bad to good, our extant logical practices, both formal and informal, provide only scant guidance on how to incorporate this fact into a logical theory.

5. Two senses of 'informal logic'

Since its inception a number of distinct, albeit related, senses of 'informal logic' have been advanced. Here I shall be concerned only to distinguish what I will call the wide and the narrow senses of 'informal logic'.

In the wide, or dialectical, sense of 'informal logic' the term denotes an approach to natural language argumentation that takes these three criteria as definitive of a good argument.

(C1) The argument's premises must be relevant to the conclusion
(C2) The argument's premises must be sufficient for the conclusion
(C3) The argument's premises must be acceptable

Here premise acceptability is considered to be a *logical requirement*,**[iv]** indicating that 'good argument' is being construed as 'good dialectical argument'. There is reason to take this approach since public arguments – most of them, at least – fit in a dialectical or rhetorical context, even if these contexts are sometimes rather indefinite. And it is precisely such arguments that the informal logicians want to tackle and make pronouncements about.

However, in order for an argument to be dialectically good it must first be logically good, and in determining logical goodness we ignore for the most part the question of whether the premises are acceptable. 'For the most part' because questions of premise acceptability nearly all fall under the heading of

epistemology. The logician, *qua* logician, *can* ask *some* questions about the premises independently of their relation to the conclusion; namely, whether they form a consistent set, and if they don't, they can be deemed unacceptable.**[v]** But this is as far as logic can go in pronouncing on premise acceptability.

Hence, shorn of the premise acceptability requirement, we have 'informal logic' in the narrow or logical sense. The project of informal logic in this narrow sense is to see how far we can develop logic without availing ourselves of the plentiful resources of logical form as it figures in formal logic. Our main resources will be the intuitive notions of 'relevance' and 'sufficiency'.

These then are the three points of departure: Aristotle's method of argumental reduction, Johnson's intuition about the continuum hypothesis, and the narrow version of informal logic just explained.

6. Implicit uses of argumental deduction

Earlier I claimed that the method of logical analogies was one of our logical practices, albeit perhaps an imperfect one, and that it was a kind of argumental reasoning. I now want to suggest that other elements of argumental reasoning, are embedded in some of our thinking about good and bad arguments.

Sometimes we speak of improving or weakening arguments; for example, we say, "you could improve your argument by getting more information" or "the argument is weaker if the authority turns out to be unreliable". This is consistent with Johnson and Blair's remark that "Rarely is an argument so good that it cannot profit from criticism and seldom is an argument so bad that it cannot be improved by criticism" (Johnson and Blair 1993: 43). Implicit in this view is the idea that an argument is something you can work on – add something to, change a part of, leave something out of – and end up with an improved version. From the argumentation theorist's point of view this observation is entirely correct but from the logician's point of view it is objectionable. We would do well here to hang on to these two necessary conditions of argument identity:

Argument A = argument B only if (i) the premises of A = the premises of B and (ii) the conclusion of A = the conclusion of B.

If we stick to the concept of argument identity, then we see that an argument cannot be changed any more than the number two can be changed; therefore, strictly speaking, talk of improving arguments (or weakening them) won't do at all. But, what then is going on when we are 'improving' our arguments? The answer is that we are composing or discovering new arguments that we believe

are better than the argument we began with. Every ‘replacement’ of one proposition by another ‘in an argument’, every ‘deletion’ and every ‘addition’ is really, from this point of view, the creation of *another* argument. We are already, then, in the habit of making new arguments stemming from other arguments.

Some of the elements needed for an argumental logic are most readily obvious in the rules we give for good inductive and analogical arguments (not arguments by logical analogy).

In analogical arguments two subjects are compared. Common properties are identified along with a projected property. A simple rule of analogical arguments is that argument strength is a function of the number of common properties that are relevant to the projected property. Whereas we might be inclined to say that the argument is improved by identifying more common properties, what we really should say is that the increments in common properties leads to a sequence of arguments, each one stronger than the one before it.

The sequence is, of course, extendable as more common properties are adduced.

Another rule for analogical arguments is that their strength is a function of the sweep of their conclusions: the less sweeping the conclusion, the stronger the argument. This consideration could give us a sequence like this:

S1 has C1-C3 and P
S1 has C1-C3 and P
S1 has C1-C3 and P
S2 has C1-C3
S2 has C1-C3
S2 has C1-C3
Certainly S2 has P Very probably S2 has P Probably S2 has P

Similarly, it is easy to see that sequences of inductive generalizations, both

universal and statistical, can be constructed in a very similar way. Each time another white swan is observed the size of the sample is increased, and a new argument is added to the series; and every weakening of the conclusion is also a new argument.
Other elements of argumental deduction may be found in a nascent state in some of our other logical distinctions. For example, another way we can strengthen premises is by making changes within modalities.

For example,
Epistemic: believes *p*, has pretty good reason to believe *p*, is justified in believing *p*, knows *p*
Alethic: possibly *p*, contingent *p*, necessarily *p*
Deontic: permitted that *p*, obligatory that *p*
Quantitative: some, most, all

Statements also increase in strength as their probability increases, and since we can express degrees of probability very precisely, we could write a fine-grained series of arguments by increasing the probability little-by-little.
Still another way that we can write a stronger premise set is by adding more independent premises to it, making a new 'convergent' argument that exceeds the number of reasons (premises) of the original argument.

7. An intuitive system of argumental deduction
Based on these observations, let us consider a system of argumental deduction that is both informal and general. It will be informal because it eschews all considerations of logical form, although it will make use of several semantic concepts also used in formal logic.
And the system will be general because it is meant to have application to all kinds of natural language arguments, not just syllogisms, or inductions, or relational arguments, etc. Moreover, whereas one can think of Aristotle's reduction system as an axiomatic argumental deductive system – with the perfect four being the axioms – the system to be developed here is more likely to be termed a *natural deduction* argumental system (since no particular arguments will be taken as axiomatic).

The core idea is very simple. We string together sequences of arguments such that their relative strength in relation to each other are indicated by their position in the sequence. Let us adopt the convention of writing our series such that the

very weakest argument is on the left, the very strongest on the right, and the ones in between are placed in an ascending order of strength from left to right. Thus, in general, for any argument in the series, the arguments on its right are stronger than it, and the ones to its left are weaker than it.

How will this work? To write a stronger argument, take any argument and write another argument to the right of it whose premises have greater sufficiency in relation to the given conclusion than the original argument; this second argument will be stronger than the original one. Or, leave the premises as they are but weaken the conclusion and this too will result in a stronger argument. For example,

A1 – A2 – A3
Some men are mortal Most men are mortal Most men are mortal
Socrates and Aristotle Socrates and Aristotle Socrates is mortal are mortal are morta

Here A2 is stronger than A1 because the premise in A2 is stronger.
A3 is stronger than A2 because the conclusion of A3 is weaker than that of A2. Obviously, the series A1-A3 is extendable in either direction.

Read from left to right the series A1-A3, shows arguments of increasing strength. Read from right to left it shows arguments of decreasing strength, and here it is an argumental reduction sequence.

In general, any argument can be reduced to any of the arguments to its left. Moreover, for any series of arguments,

A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, etc.

if, say, A7 is a logically good argument, then the ones to the right of it, A8-A10, etc, will be logically good argument also; and if A4 is a logically bad argument then the ones to the left of it will be logically bad arguments too. We may classify A5 and A6 as neither good nor bad, but middling, with A6 being the stronger.

We have to pause momentarily to clarify how we are to understand the relation ‘argument A is stronger than argument B’. In the logical sense, one argument is stronger than another if it provides *more support* for its conclusion than another argument provides for its conclusion (supposing, of course, that the premises in

question are true or acceptable). For example, one might hold that the cosmological argument for God's existence is stronger than Jones's argument against the abolition of slavery, or that a particular argument for free trade is stronger than a particular argument against it.
Whenever we adjudicate issues from a purely logical point of view we do so on the basis of comparative logical strength and nothing else. However, this comparative sense of 'stronger than' is too wide for the purposes of our present project.

In a narrower sense of 'argument A is stronger than argument B' we mean that the stronger argument is an improvement or development of a weaker argument; the weaker argument lacks certain logical merits that the stronger argument has. It is possible to take an argument and 'add to it' (so to speak) to make it better, and then to make even more improvements again and again. This narrow sense of 'stronger argument' implies that there is some logical relation between two arguments when one is stronger than another such that the weaker argument can be obtained from the stronger argument. I call this the serial sense of 'stronger argument,' and will attempt a clearer statement of it in sec. 9.
The requisite skill in this kind of logic is to be able to write a series correctly, with the arguments in ascending order of strength. Once this is done one can reduce any argument to any other on its left in the series.
Aristotle's insights about argument reduction have here been generalized. Argument A reduces to argument B if the strength of A's premises is greater than the strength of B's, or the conclusion of B is stronger than the conclusion of A. In addition, Aristotle's insight that good arguments also reduce to bad arguments is preserved in this approach because there will always be bad arguments to the left of good arguments. However, bad arguments can only reduce to other bad arguments since there are no good arguments to the left of bad arguments. The present approach does differ from Aristotle's in one important respect. We are not identifying a subset of good arguments to which all other good arguments are to be reduce. This method presupposes that it will be possible to identify some arguments as good on independent grounds.
Moreover, Johnson's intuition about the continuum hypothesis fits nicely with argumental deduction: every series of argument is also a continuum of arguments related to each other in terms of comparative logical strength. Perhaps, by restricting ourselves to the serial sense of 'stronger than', we have given the continuum hypothesis a narrower interpretation than Johnson anticipated but this is not inconsistent with the idea that arguments can also be ranked in the wider,

comparative sense; although how this might be done is a problem that goes beyond the reach of our present project.

Finally, we have accomplished this much logic by relying only on the notions of 'relevance' and 'sufficiency'. They are assigned distinct roles in argumental series. Relevance is the price of admission; an argument's premises must be relevant to its conclusion if it is to be included in a series. Sufficiency determines seating-order; the more sufficient premises are with respect to a conclusion, the closer the argument sits to the orchestra (the further it is placed to the right in the series). We hasten to add and admit that there are no new insights or improved analyses of the concepts 'relevance' and 'sufficiency' provided by this approach; they are used at the at the same face value they have in other informal logic projects.

8. A general system of argumental deduction (System G)

System G is designed to provide a conceptual framework for constructing series in which to place arguments that occur in natural language argumentation. It attempts to define the concepts needed for constructing the series of arguments in which argumental deduction can be carried out. The most important concept developed is that of an 'argumental series' (Df9).

We begin by defining the relative strength of two sets of statements.

(Df1) A set of statements B is stronger than a set of statements A iff B entails A, and A does not entail B.

The motivating intuition here is that a stronger set of statements has greater scope, or sweep, than a weaker set and is therefore more likely to be false. Still, the definition falls prey to the standard paradoxes: if the statements in B are logically inconsistent and those in A are not, the definition is satisfied. There is a limitation, however.

A sequence of sets of statements will be transitive with respect to 'stronger than' only if any member of the sequence that is inconsistent is the last member of the sequence. If the last two members of a sequence were both logically inconsistent, for example, then the penultimate set would entail the final member, and the final member would not be stronger than its predecessor.

If the conjunction of the premises in A constitute a necessary truth, and those in B do not, then it is true that B entails A (because any set of statements entails a

necessary truth) and it is true too that A does not entail B (since necessary truths do not entail non-necessary truths). This consequence is not unwelcome since contingent propositions provide better support for other continget propositions than do necessary truths.

Definition 1 is an ingredient in the definition of 'stronger set of premises'.

(Df2) A set of premises, D, is stronger than a set of premises, C, iff
(i) D is stronger than C and
(ii) every member of D, either in combination with other members of D, or individually, is positively relevant to the conclusion of C.

We are on the way to defining 'stronger argument' (in Df4), and one of the ways that an argument can be stronger than another is by having 'stronger premises.' However, this cannot be understood simply as being a stronger set of statements. They must not only be that, they must also be a stronger set of statements that will serve as premises for the *same conclusion* as the weaker argument. This is what the second condition of Df2 attempts to ensure.

The other condition that affects argument strength relates to conclusions: the weaker the conclusion, the stronger the argument. Since 'weaker than' is the converse of 'stronger than' we have the following definition.

(Df3) For any sets of statements E and F, E is weaker than F iff F is stronger than E.

Incorporating Df2 and Df3, we define 'logically stronger argument' as follows.

(Df4) An argument H is logically stronger than an argument G iff either
(i) the premises of H are stronger than the premises of G or
(ii) the conclusion of H is weaker than the conclusion of G.

Now, let us add that
(Df5) Two or more arguments constitute a sequence (of arguments).

An argumental deduction is a special kind of sequence, one in which all the members of the sequence are related in a specifiable way. Such a sequence we will call a 'series' and tentatively define as,

(Df6) A series (of arguments) is a sequence of arguments such that every

successor in the sequence is logically stronger than its predecessor.

But this won't quite do, especially if we want to generalize on Aristotle's methods of argument reduction that we looked at earlier (in sec. 2). One of those methods was reduction by argument transposition. An argument is a transpose of another if, and only if, the conclusion of the first argument is negated and replaces a premise in the second argument, and the evicted premise of the second argument is negated and is the conclusion of the first argument. In general,

A	A
B	*not-C*
C	not-B

for any number of premises, is what argument transposition brings about (recall the example of Bokardo, in sec. 2). Argument transposition figures in argument reduction and deduction, but the arguments are of equal logical strength; the one is not logically stronger or weaker than the other. This means that there is more than one way to write an argumental deductive sequence: one in which each successive member is stronger than the one before it, and one in which successive arguments have the same logical strength (see Hansen 1994).

Another consideration is that, in addition to argument transposition, there are argument reductions where it is misleading to say that the reduction is to a weaker argument. Aristotle's example of a reduction from Camestres to Celarent is itself an illustration of this, for it involves only the conversion of E propositions, and statements of the form 'SeP' are neither stronger nor weaker than statements of the form 'PeS'. We would not call such converse statements identical, but they are equivalent. Hence, we need to define a concept somewhat broader than 'argument identity'. Let us say that two statements are equivalent if they entail each other; then (Df7) Argument K is equivalent to argument L iff every premise of K is equivalent to a premise in L, and vice versa, and (ii) the conclusion of K is equivalent to the conclusion of L.

We are now in a position to offer an improved definition of argumental series.

(Df8) An *argumental series* is a sequence of arguments such that for any two members of the sequence the successor is either
(i) logically stronger than its predecessor,
(ii) an argumental transpose of its predecessor, or

(iii) an argument equivalent to its predecessor.

This is the preferred definition of 'argumental series'.
Given Df8 a number of rules about comparative argument strength can be given. I shall state only two of them. First, the rule for good arguments.

Rule GA: An argument Ai in a series S is a good argument iff there is an argument Ai in S, (to the left of Ai), and Ai-j is a good argument. A series itself does not decide which arguments are good. Argument reduction and deduction always depends on some arguments being taken as good on other grounds; hence, what this approach to logical evaluation allows is the making of comparative judgments in view of the assumption that some of the arguments in a series have been assigned a value. In other words, the rules give sufficient conditions for good arguments, not necessary conditions. Analogous considerations apply to the rule for bad arguments.

Rule BA: An argument Ai in a series S is a bad argument if there is an argument Ai+j in S (to the right of Ai), and Ai+j is a bad argument.

9. Conclusions
I am not advocating that argument evaluation in informal logic should proceed by actually writing long or short series of arguments and then carrying out a reduction. In a very few cases this might be helpful. However, realizing that it is possible to place every argument in a series gives us a perspective on relative argument strength that is instructive. Not only does argumental deduction allow for argument reduction, it also gives directions for argument construction; that is, it incorporates the principles for writing logically better arguments.
Earlier I distinguished between 'informal logic' in the wide and narrow senses. Our ultimate goal, of course, is to practice informal logic in the wide sense that includes the requirement that premises should be acceptable. With respect to argument series, some observations are possible in this regard.
In general, the stronger an argument's premise set the less likely it is that it will be acceptable. The desire for logical strength pushes us rightward in our series but dialectical reality creates a leftward force. Hence, the argument that is likely to be successful in a dialectical context will be one that is a compromise between considerations of logical strength and premise acceptability. With regard to conclusions of arguments, in general, the weaker they are the stronger the argument is logically. Again, the need for logical strength pushes us rightward in

argument series. But the weaker a conclusion is the less likely it is to have the required dialectical bite. That is, a weak conclusion may be established by a logically strong argument with acceptable premises but the conclusion may not be strong enough to do the work required. So, dialectical considerations also put a check on the weaknesses of conclusions.

Everything Aristotle could have dreamed of in terms of showing arguments valid, and more, has found a home in modern logic. One *might* say that first-order logic is a generalization of Aristotle's insights about the syllogism if, that is, we view the syllogism as a kind of *statemental* deductive logic. However, if we consider Aristotle's logic as an *argumental* deductive logic, then the present project is an attempt to generalize his insights about reduction, and extend them to non-syllogistic logic as well.

NOTES

[i] I am not forgetting that an argument's having an invalid form is insufficient for convicting it of having no valid form, and hence for showing that it is invalid. The importance of this (the asymmetry thesis) is that it shows that the method of logical analogies is not an effective method; it does not show that it is not a useful method.

[ii] This last step is required neither by Aristotle nor by logic; it simply puts the argument in what we have come to think of as standard form.

[iii] The system developed below cannot accommodate logical analogies.

[iv] Johnson and Blair (1993: 62) say it is a logical requirement.

[v] Tapscott (1976: 80) defines 'good argument' as a valid argument with consistent premises

REFERENCES

Corcoran, J. (1974) "Remarks on Stoic deduction," In : J. Corcoran (ed.) *Ancient Logic and its Modern Interpretations.* Dordrecht: Reidel. pp. 169-81.

Corcoran, J. (1983) "Deduction and reduction: Two proof-theoretic processes in *Prior Analytics I," J. of Symbolic Logic* 48: 906.

Hansen, H. V. (1994) "Reductio without assumptions?" *Logique & Analyse* 147-48: 329-37.

Johnson, R. H. (1992) "The impact of the continuum hypothesis on theories of evaluation," In: F. H. van Eemeren, R. Grootendorst, J. Antony Blair, C. A. Willard (eds.) *Argumentation Illuminated*. Amsterdam: Sicsat. pp. 148-58.

Johnson, R. H., and J. A. Blair (1993) *Logical Self-Defense,* 3rd ed. Toronto:

McGraw-Hill Ryerson.
Tapscott, Bangs L. (1976) *Elementary Applied Symbolic Logic*. Englewood Cliffs: Prentice-Hall.

Public Argument And Civil Society: The Cold War Legacy As A Barrier To Deliberative Politics

The often dramatic happenings in Eastern and Central Europe a decade ago, as well as subsequent events in the Soviet Union which resulted in its eventual rupture, made for a revival of interest in the idea of civil society with all of its historical and philosophical meanings.

Thus, for example, Karl E. Birnbaum wrote in 1991: "In a Europe where democracy is finally writ large all over the continent, the present major tasks of political reconstruction more than ever requires the active participation of individual citizens, of civil society" (84).

In the political arena, Vaclav Havel, shortly after his election as President of the Czech and Slovak Federal Republic, affirmed the importance of the idea: ". . . the principle of civil society represents the best way for individuals to realize themselves, to fulfil their identity in all the circles of their home, to enjoy everything that belongs to their natural world, not just some aspects of it" (1992: 32).

In later years, Havel expanded the notion of civil society to serve as the guarantor of political stability. When he addressed the Parliament and Senate of the Czech Republic on December 9, 1997, partially in response to the forced resignation of Prime Minister Vaclav Klaus, Havel used the occasion to reflect on the progress of the Republic: "The more developed all the organs, institutions, and instruments of civil society are, the more resistant that society will be to political upheavals or reversals" (1998: 45). A truly democratic system would not be threatened by a

scandal, a crisis or some banal event. “In my opinion,” Havel said, “this can only happen because we have not yet created the foundations of a genuinely evolved civil society, which lives on a thousand different levels and thus need not feel that its existence depends on one government or another or on one political party or another” (45).

In another part of the world, former U.S.A. Senator Bill Bradley, a popular and well-regarded politician who decided not to seek re-election in 1996, views civil society as key to the American experience: “American civilization is like a three-legged stool, with government and the private sector being two legs and the third being civil society, the place where we live our lives, educate our kids, worship our God, and associate with our neighbors” (412). Like Havel, Bradley views civil society as containing the seeds for democratic renewal: “Within civil society lies the zest to deal with what ails us as a nation” (414).

Finally, in Jürgen Habermas’ recent works in communication, political and sociological theory, he argues the need for an enlightened civil society in order to make deliberative politics function. To Habermas, “civil society is composed of those more or less spontaneously emergent associations, organizations, and movements that, attuned to how societal problems resonate in the private life spheres, distill and transmit such reactions in amplified form to the public sphere” (367). Without minimizing the difficulties of a viable civil society, Habermas stresses its importance to basic constitutional guarantees. He argues: “The communication structures of the public sphere must rather be kept intact by an energetic civil society. That the political public sphere must in a certain sense reproduce and stabilize itself from its own resources is shown by the odd self-referential character of the practice of communication in civil society” (369).

In this paper, I want to examine the potential for civil society to serve as a mediating force in democratic practices. I will argue that civil society is culture-specific and that its potential can only be explained, understood and utilized within a particular national or ethnic setting; that current discontent in the American situation may well be attributed to a fractured and decaying civil society. Finally, I believe that the cold war as a dominating idea had a particular and debilitating impact on American civil society, damaging the argumentative practices necessary for meaningful deliberative politics to have cogent meaning.

Christopher Bryant provides a useful and somewhat realistic notion of civil society as “a space or arena between household and state, other than the market, which affords possibilities of concerted action and social self-organization” (399).

Michard Bernhard argues a similar meaning for civil society: “It constitutes the sphere of autonomy from which political forces representing constellations of interest in society have contested state power” (307). These definitions realize that civil society is more than a place where one learns associational and civic lessons, but also the sphere where contestation and concerted action find their social and political realization.

A meaningful civil society must advance beyond mere civic association to remove it from the realm of nostalgia. While not necessarily a bad thing and sometimes useful for strategic rhetorical purposes, nostalgia seldom has sustaining value for dealing with modern conditions such as an internationalized economy, market forces which have eroded community, demographic changes, and a technological transformation of leisure. Given both the excesses of the market and the distance of government, civil society must be about resistance as well as habit formation.

Having said these things, it is also important to note that habit formation in the sense of democratic practices must precede resistance. Associational membership enhances civil society. As Luis Roninger notes, “Civil society can be nurtured through involvement in participatory activities and grassroot organizations, through the establishment of centers of sociability like coffee houses, clubs and voluntary associations; through increased public interaction – in the framework of open lectures, recreational locales, and museums; by means of communication – written and electronic that empower and substantiate the citizens’ sense of autonomy from the logic of regulation by the state” (208-9).

Civil society is also culture-specific. Neither its successes nor failures are easily transferable. Civil Society occurs in cultures which include their own distinct histories, customs, mores, rituals, myths – a series of shared understandings, often taken for granted, merely assumed. Its separability from the state and the economy is never exactly distinct.

There is a final requisite for a meaningful civil society: its dependence on both a somewhat engaged citizenry with opportunities for democratic participation. Without at least a theoretical responsiveness to public opinion and arenas for citizens to express opinions, it is difficult to imagine scenarios for civil society to have a routine and sustained impact on political possibilities. As Krishnan Kumar notes, “The establishment of a democratic polity and a public sphere of political debate and political activity are the primary conditions for a thriving civil society of independent associations and an active civic life” (391). Michael Walzer makes the claim in even simpler terms: “Only a democratic state can create a democratic civil society; only a democratic civil society can sustain a democratic state” (104).

In addressing, now, the American experience, it is important to note first the limitations of traditional political settings and spaces capable of enhancing the sorts of practices necessary for the making of democratic citizens.

Charles Taylor establishes the problem in broad terms: “The average citizen feels power to be at a great distance and frequently unresponsive to him or her. There is a sense of powerlessness in the face of a governing machine which continues on its way without regard to the interests of ordinary people, who seem to have little recourse to make their needs felt” (207).

Public opinion findings confirm this sense of powerlessness and lack of confidence. In 1964, seventy-six percent of Americans believed they could trust the government in Washington to do what was right most of the time. Three decades later only twenty percent did (Sandel: 297).

Daniel Yankelovich expands this loss of confidence to other centralized and hierarchical national institutions: “In the past few
decades, the medical profession has slipped from confidence ratings of 73 percent to 26 percent. Institutions such as big business, organized labor, and the press all have confidence ratings below 30 percent” (61).

In his book on Congress, written after his self-imposed retirement, Congressman Timothy Penny relates that in 1956 five thousand special interest groups existed in Washington. By 1993, the number had grown to more than twenty-three thousand. As Penny notes, “The special interest industry employs five hundred thousand full-time workers, roughly the same number as are employed by the steel, computer or airline industry” (104).

Citing a 1990 survey of the American Society of Association Executives, Penny writes that seven of ten Americans belonged to at least one special interest group, and one of four Americans belonged to at least four (105).

These modern versions of civic association have become part of the political process. Only the nature of activism has changed. Citizens in ever larger numbers do join communities, but communities designed to protect their individual niches in a more perplexing world. Associational membership is largely designed to support some aspect of the market or some attempt to preserve a government program that may have outlived its usefulness. There are few common bonds. The act of citizenship is to write a check, and then let others argue some particular cause.

This interaction with both the market and state has created not only a perverted political process but a sameness of discourse that mimics the notion of self-

governance. As Lewis Lapham writes, “The trick is to say as little as possible in a language so bland that the speaker no longer can be accused of harboring an unpleasant opinion” (30).

Thus, at election time, many Americans fall prey to the latest quick fix: prayer in schools, the restoration of family values, checks on cultural elitism, terms limitations, balanced budget amendments, the sanctity of the flag, a tougher policy towards Cuba, the death penalty. As the philosopher Richard Rorty noted, “the choice between the two major parties has come down to a choice between cynical lies and terrified silence” (87).

It is now fashionable in political circles to attribute all sorts of things to the end of the cold war. Senator Howell Heflin, for example, on his retirement from the U.S. Senate in 1997, wrote as follows: “Our victory in the Cold War did not seem to have the resonance around the country that one would expect. For decades, our entire defense and foreign policy had been formulated around the goal of fighting communism. It was truly astounding that our resources could now be channeled elsewhere. And yet, the passion, the excitement, the relief just didn’t seem to be there. Almost immediately, a sizable segment of the population seemed to begin searching for another enemy” (78).

Mark Gerzon describes how Washington has become a substitute for Moscow: “No longer able to portray Moscow as the Evil Empire, some of our fellow citizens now portray Washington that way. Since the end of the cold war, we often act as if we are our own worst enemies” (xiii).

Lewis Lapham recently described the American experiment as a series of tensions between competing interests and ideas, namely the city versus the town, labor versus capital, matter versus mind, and government versus the governed (30). Although I do not have time to develop the point here, such were the similar terms of debate between the Federalists and the Anti-federalists on “how best to constitute popular government” (Schambra, 37). In more modern times, it is to understand the tension between civic republicanism with its emphasis on citizenship and community, and modern liberalism with its concern for individuals and their procedural rights.

Mistrust of a strong central government has always been part of the American political lexicon from both the left and the right. Indeed, Seymour Lipset argues in his recent work on American exceptionalism that the failure to have a significant socialist movement in the United States is based less on class than “the lower legitimacy Americans grant to state intervention and state authority” (23).

Michael S. Joyce and William A. Schambra argue that strong faith in centralized power only works in times of national crises such as the Great Depression, World War II or the Cold War. Moral equivalents such as the war on poverty or a war on the energy problem cannot substitute for the real thing. So, they note: "Today, with the end of a long and exhausting cold war, Americans seem distinctly unwilling to rally around the 'national idea'" (25).

This is not surprising. After all, the cold war became a frame of reference through which to view and evaluate all things that happened during its life span. Additionally, the cold war needed a coherent and inclusive vocabulary in order to promote a variety of not only security concerns, but economic interests, self-images, and personal ambitions. The cold war was a dominating idea, and thus accumulated a legacy that permeated every aspect of American culture. But a rhetorical construct only works when steam is generated to fuel its engine. With the collapse of the Soviet Union, the dominating idea no longer had a rationale. With the fall of the Berlin Well, and the rapidity of events that followed, the pieces no longer fit together. Joy endures for a night, but darkness comes in the morning.

Wars, of course, never really end. They live on in the memories of those who fought them, the generations who observed and learned from a distance, and the legacy retained as part of a national consensus and culture. Differences between the United States and its adversaries would be cast in a harsh rhetoric characterized by magnified and expansive terms; a divisive and uncompromising tone which exaggerated differences and minimized common interests; and an active narrative which redefined events and claimed the superiority of the American experience. All of this was bound to have an impact on discursive practices.

If the cold war was meant to be real, it had to be fought as though it were an actual war, and one consistent with the nation's view of itself. As Seymour Lipset recently wrote, "To endorse a war and call on people to kill others and die for the country, Americans must define their role in a conflict as being on God's side against Satan – for morality against evil, not in its self-perception, to defend national interests" (20). The cold war tended to ignore debatable national interests, economic as well as political, because in an atmosphere of national emergency, deliberation became secondary to patriotism. Dissent over legitimate topics came at a heavy price.

The foundations for the cold war were set immediately following the end of World

War II, and its details need not be repeated here. I want, however, to make special note of NSC-68, drafted by a Department of State and Defense study group in early 1950. Their seventy single-spaced page report was signed by President Truman later that year. Thomas H. Etzold and John Lewis Gaddis note its importance: "NSC 68 constitutes the most elaborate effort made by United States officials during the early Cold War years to integrate political, economic, and military considerations into a comprehensive statement of national security policy" (383).

Equally important to the policy implications of NSC-68 is the language used to describe their rationale. Nothing less than the future of mankind was at stake: "The issues that face us are momentous, involving the fulfillment or destruction not only of this Republic but of civilization itself. They are issues that will not await our deliberations. With conscience and resolution this government and the people it represents must now take new and fateful decisions" (386).

The, threat, however, was more than external. The Soviets meant to destroy us from within: "It is quite clear from Soviet theory and practice that the Kremlin seeks to bring the free world under its dominion by the methods of the cold war. The preferred technique is to subvert by infiltration." They will try to turn our institutions against us: labor unions, civic enterprises, schools, churches, and the media. The doubts and diversity that are the merits of a free system, they will use against us, making them "sources of confusion in our economy, our culture and our body politic." They will use our freedoms against us as "all are but opportunities for the Kremlin to do its evil work"(413).

NSC-68 called for quadrupling the defense budget from $12.9 billion to $50 billion. The report warned that the American government should be prepared for the adverse psychological effects of such a rapid buildup both at home and abroad. Thus, the document advises: ". . . in any announcement of policy and in the character of the measures adopted, emphasis should be given to the essentially defense character and care should be taken to minimize, as far as possible, unfavorable domestic and foreign reactions." (434).

Finally, the document warns against "internal developments" which could jeopardize and weaken these national security objectives. Among them, the authors mention: serious espionage, subversion and sabotage, prolonged or exaggerated economic instability, and internal political and social disunity (439). Although not exclusively so, devaluation of dissent and deliberation, and the desirability of secrecy and expertise are among the legacies of NSC-68. While the structures themselves were already in place for the rhetorical construction of the

cold war, NSC-68 gave a comprehensive rationale for the utilization of these structures. Americans could not be trusted to deliberate about their own affairs.

Almost fifty years later, Senator Daniel Patrick Moynihan wrote about the release of the report whose committee he chaired on protecting and reducing government secrecy: “Wars used to end with homecoming parades and demobilization. Nothing so unambiguous happened after the Cold War, and so it requires an effort to think anew” (56).

The Commission report makes this conclusion: “The Soviet Union is gone. But the secrecy system that grew in the United States in the long travail of the 20th century challenge to the Western democracies, culminating in the Cold War, is still in place as if nothing has changed. The system is massive, pervasive, evasive. Bureaucracies perpetuate themselves; regulations accumulate and become even more invasive” (A-77).

The Commission defines the scope of the secrecy system in the United States. Some two million federal officials, civil and military, have the ability to classify information (xxii). In 1995, government and industry spent over $5.6 billion to protect classified national security information (10). There are over 1.5 billion pages of government records over 25 years old that are unavailable to the public because they are still classified (xxiv).

Perhaps the greatest contribution of the Commission is its exploration into the culture of secrecy: that secrecy enhances political and bureaucratic power; that secrecy is a form of government regulation; that secrecy makes government less than accountable for its activities; that secrecy prevents meaningful scrutiny of old beliefs; that secrecy prevents the public from engaging in meaningful debate; that secrecy begets both suspicion and cynicism.

When there are too many secrets, there are really no secrets. Secrets are selectively leaked for strategic purposes: to support an administration, weaken an administration, advance a policy, undermine a policy (A-3). In reality, there are now no sanctions for such disclosure to the press. Only one person has ever been prosecuted under the 1917 Espionage code for unauthorized disclosure to the press, a civilian who leaked photographs to Jane’s Defense Weekly of a Soviet nuclear-powered carrier under construction. The employee received a two-year sentence (A-3).

Althan G. Theoharis describes the result as it relates to political deliberation: “Acting in secret, cold war presidents could counteract their adversaries (whether foreign or domestic) without in the process provoking a divisive domestic debate”

(4).

I reach now the argument that I want to make in my conclusion: that the significance of the cold war rested in its ability to postpone an on-going debate about the significance and meaning of the American experience. America before Pearl Harbor was still coming to terms with the effects of the machine age, urbanization, the decline of the power of the individual, the emergence of a strong federal government to deal with the ills of the Great Depression, a strong presidency, and an over-reliance on expertise. William Greider describes well how "Americans have been systematically taught to defer to authority and expertise in a complicated world" and "that those chosen to hold power have access to a special knowledge and intelligence not available to others and, therefore, their deliberations and actions are supposedly grounded in a firmer reality" (407). In the cold war period, expertise was paramount, and it was the rare politician or citizen who resisted. Indeed, given the argument that the Soviets meant to fracture basic civic institutions, their very legitimacy became questioned. Additionally, it is not so easy to pierce a culture of secrecy, but deliberative politics cannot exist without information. Demands for changes in this culture of secrecy will have to come from citizens. They will not come from government or market forces.

If it is true, as I have argued, that the significance of the cold war rested in its ability to postpone the continual American debate about its own meaning, then the end of the cold war offers opportunities for the resumption of that debate: about the role of the individual versus the common good; about the role of government and its relationship to actual needs; about the value of expertise versus the value of ordinary experiences; about the role an active citizenry can play in forming better deliberative politics; about the meaning of self-government. The cold war took away, and then monopolized, the terrain where such debates could occur. As Michael Sandel notes, "The formative aspects of republican politics require public spaces that gather citizens together, enable them to interpret their condition, and cultivate solidarity and civic engagement" (349). Perhaps the current difficulties I described earlier reflect the battle for such space.

Since neither government nor the market will provide viable solutions, then civil society as kind of a "third way" needs to be understood, cultivated and perhaps reborn. This is not such an easy task. Michael Walzer said it very well: "Civil society is a project of projects; it requires many organizing strategies and new

forms of state action. It requires a new sensitivity for what is local, specific, contingent – and, above all, a new recognition (to paraphrase a famous sentence) that the good life is in the details" (107).

REFERENCES

Bernhard, Michael (1993). Civil society and democratic transition in East Central Europe. *Political Science Quarterly.* 108, 307-326.

Birnbaum, Karl E. (1991). Civil society and government policy in a new Europe. *The World Today*. 47, 84-85.

Bradley, Bill (1996). *Time Present, Time Past: A Memoir*. New York: Alfred A. Knopf.

Bryant, Christopher G.A. (1993). Social self-organization, civility and sociology: a comment on Kumar's 'Civil Society'. *British Journal of Sociology.* 44, 397-400.

Commission on Protecting and Reducing Government Secrecy (1997). Washington: U.S. Government Printing Office.

Etzold, Thomas H. And Gaddis, John Lewis (1978). *Containment: Documents on American Policy and Strategy, 1945-1950.* NewYork: Columbia University.

Gerzon, Mark (1997). *A House Divided: Six Belief Systems Struggling for America's Soul*. New York: G.P. Putnam's Sons.

Greider, William (1992). Who Will Tell The People: The Betrayal of American Democracy. New York: Simon and Schuster.

Habermas, Jürgen (1996). *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy*. Cambridge: MIT Press.

Havel, Vaclav (1992). *Summer Meditations*. New York: Alfred A. Knopf.

Havel, Vaclav (1998). The state of the republic. *The New York Review of Books*. 45, 42-46.

Heflin, Howell (1997) Farewell Address. In: Norman J. Ornstein (Ed.), *Lessons and Legacies: Farewell Addresses from the Senate*. New York: Addison-Wesley.

Joyce, Michael S. And Schambra, William A. (1996). A new civic life. In: Peter L. Berger and Richard John Neuhaus (Eds.), *To Empower People: From State to Civil Society*. Washington: The AEI Press.

Kumar, Krishnan (1993). Civil society: an inquiry into the usefulness of an historical term. *British Journal of Sociology.* 44, 375-395.

Lapham, Lewis H. (1994). *The Wish for Kings: Democracy at Bay.* New York: Grove Press.

Lipset, Seymour Martin (1996). *American Exceptionalism: A Double-Edged Sword*. New York: W.W. Norton.

Moynihan, Daniel Patrick (1997). The culture of secrecy. *The Public Interest.* 128, 55-72.
Penny, Timothy J. And Garrett, Major (1995). *Common Cents. Boston: Little, Brown and Company.*
Roninger, Luis (1994). Civil society, patronage and democracy*. International Journal of Comparative Sociology.* 35, 207-220.
Rorty, Richard (1998). *Achieving Our Country: Leftist Thought in Twentieth-Century America.* Cambridge: Harvard University Press.
Sandel, Michael J. (1996). *Democracy's Discontent: America in Search of a Public Philosophy*. Cambridge: Harvard University Press.
Schambra, William A. (1982). The roots of the American political philosophy. *The Public Interest*. 67, 36-48.
Taylor, Charles (1995). Liberal politics and the public sphere. In: Amitai Etzioni (Ed.), *New Communitarian Thinking.* Charlottesville: University Press of Virginia.
Theoharis, Athan G. (1998). *A Culture of Secrecy: The Government Versus the People's Right to Know.* Lawrence: University Press of Kansas.
Walzer, Michael (1992). The civil society argument. In: *Chantal*

ISSA Proceedings 1998 – Argumentation And Public Debate

1. Introduction

Arguments play a role in public debates. Nobody will contest this statement. Disagreement starts when trying to specify what roles arguments play. In order to simplify I would like to distinguish two extreme positions. At one extreme, public debates can be conceived as argumentation. That means that each public debate can be understood as a complex process in which disagreements concerning a standpoint are settled or confirmed with the help of arguments and counter arguments. In this view, public debates are rational resolutions of conflicts of opinion with the help of proper arguments. The ultimate nature of public debates is made up by some form of

collective rationality. Such a conception can be elaborated in various ways, such as by Habermas (1981) or by Van Eemeren (1987) and Grootendorst. These elaborations will give some attention to possible disruptions of the rational resolution process. As public debates take place in contexts of social, political, religious and economic confrontation, these approaches will admit that there may be all kinds of disruptions and breakdowns of public debates, which can be explained by unequal power relations, by lack of suitable information or by the adoption of dogmatic positions.
Another extreme position will understand public debates as expressions of power struggles. Any move is suitable as long as it helps to win. In other words, debates are just continuations of fights or disguised forms of war. Fights and wars can also be conducted in a rational way. Machiavelli could be seen as a proponent of such a view, or in modern social science, the french sociologist Bourdieu (1982). In this view, public debates are disguised forms of fights, and the proponents will not deny that arguments are used in such a process. However, the arguments used do not have any intrinsic strength as such. They serve for manipulation and maybe for easy victory. As soon as arguments will not be sufficient to guarantee victory, they will be replaced by other means, such as exclusions of some participants, formulating new agendas, the necessity to decide at once, etc.

The aim of this contribution is rather modest. I will not try to reject one or the other of these conceptions. Anyway, both offer useful and suitable instruments of analysis which have proven to be fruitful in some contexts of research. I will restrict myself here to analyze how arguments and other means of intervention are used in public debates and how they can be combined. In the conclusion I will outline how elements of the two mentioned conceptions can be integrated.
I will start by presenting a working definition of public debates and present some of their characteristics. In the central parts I will discuss forms of exclusions from public debates and their incidence on arguments and also mechanisms of participating in public debates and the role of arguments in these mechanisms.

2. A working definition of public debates
Public debates in modern times presuppose a public sphere which can only exist if formally or de facto there are conditions of public discussion of issues of general interest. These conditions can be guaranteed formally by a constitution and/or by general rights such as civil or human rights or be established de facto by social movements. As the point of public debates is not restricted to discuss matters of

general interest but also to influence decisions of general interest, some form of democracy will be needed in order to enable the full development of public debates. The existing forms of democracy in present time do not really match the various ideal models of democracy which have been formulated by philosophers and social scientists. Held (1987) offers a good overview of models of democracy.
The model of deliberative democracy is particularly interesting when considering public debates, because a large participation of citizens in decisions is one of the main features of this ideal model. Deliberative democracy presupposes that all citizens participate in one way or another in the process of formulation of standpoints of policy. This participation does not mean that all citizens will directly influence the decisions, but it offers at least the possibility to do so. Any citizen or group of citizens should be able to bring his/her standpoints and arguments in the public sphere. These standpoints and arguments may be rejected in a public debate, but they may sometimes influence to some extent the opinions of others and in the long run have some impact in decisions of policy of general interest. As we shall see further on, at present, the existing forms of democracy realize some aspects of this ideal model but they cannot guarantee an effectively an equal participation of all citizens in public affairs.

Public debates can be understood as social arenas where different parties formulate and discuss issues with the aim to influence the other parties and general decisions. The arenas have various forms, to begin with there were rather small – but in principle open for everybody – gatherings of people in cafes discussing issues of general interest. With the development of the media quite different forms of arenas exist at the present (Habermas 1990). With the Internet a new type of medium starts to play an important role.
The parties which participate in public debates can be individuals or groups. But groups are always represented by one or more individuals. These individuals participate in their quality of citizens, in other words they have in principle equal rights, and their wealth, race or other particularities should not play any role. However, equal participation is an ideal which is far from being realized in practice.

Can the parties bring in any issue whatsoever in a public debate? This is a very contested issue. According to some authors, inspired by Rousseau, parties may only put forward issues of general interest, and not problems or standpoints which they hold as private individuals. But this limitation would entail that there

is some kind of control when entering the public sphere with explicit criteria what questions will be allowed and wich ones have to be refused. As it is extremely difficult to define universally such criteria there is a general agreement that no strict restriction can be defined. Recent studies of the public sphere and of public debates (Gutmann and Thompson 1996, Van Kersbergen and Propper 1995, and the special numbers of the journals 'Raisons Pratiques' and 'Hermes') permit to characterize public debates as open, dynamic and heterogeneous.

Public debates are open in the sense that the parties participating can change. There may be individuals and groups which did not take part in any discussion for a long time who can at one moment start to participate. For example, the participation of women was marginal for a long time, but in recent decades a growing number of women does play a role in the public sphere.
Public debates have also a quite dynamic character, because not only the participants can change but also the issues which are discussed. Even a single issue or problem can over time be transformed quite radically, for example by being related to other issues or by being split in several distinct problems. Moreover, public debates are quite often heterogeneous, which indicates the fact that one given issue can be discussed at the same time in several arenas, for example in different media, with various accents and by different parties.
A further characteristic should be mentioned here. Public debates can be restricted to strictly local issues concerning a small village or a quarter of a city or bear on issues which concern potentially all human beings, such as for example the issue raised by indigenous people that human rights cannot be defined for every individual in the world in the same way.

There are three criteria of successful participation in public debates. These criteria are generally acknowledged because they formulate in fact only general preconditions.
The first one simply specifies that a party succeeds to get in the public sphere. To get in means that a party will be able to formulate a standpoint and to present it in one or the other arena where public debates take place. This elementary conditions is so minimal that it seems hardly worth mentioning. But as we shall see in the next section, this first step constitutes a very difficult handicap for many individual and groups. Indeed, this criterion entails to begin with that parties are capable of recognizing if decisions and propositions under discussion will have problematic consequences for their life. That already presupposes to be

well informed in the first place, and to be able to foresee the possible consequences of decisions to be taken. Furthermore, the concerned party must have the capabilities of analyzing critically the issues at hand with the aim to formulate at least some critical arguments and eventually alternative courses of action. Finally, this party must be able to present his/her critical arguments and alternatives in a suitable way, which means that it will be acceptable in one or the other arena of public debate. These remarks underline that the first criterion is after all not so elementary at all. It involves being well informed, being able to analyze critically complex states of affairs, to formulate critical arguments and alternatives and finally to present these arguments and alternatives in a way which fits into the habits of a given arena of debate.

The second criterion goes a step further. It involves acknowledgment of a given contribution. A simple formulation would be: *getting discussed*. Once a party succeeds to get in the public sphere with a standpoint the game is not over. Other parties which were already present can simply ignore this new contribution. This contribution can only play a role in the public debate if at least one party acknowledges this new contribution, for example by discussing it or by rejecting it partially or completely. This second criterion means that a contribution in a public debate is taken seriously, that is discussed in a critical way. By being discussed, even if the discussion will lead to partial rejection, a standpoint of a party can exercise some influence. First of all, being discussed means that the standpoint will be better known in some arena. Second, being analyzed will involve that the new party which has formulated the standpoint will be scrutinized to some extent in order to understand the possible interests involved. Third, even a partial or total rejection offers to the new party the opportunity of response. In other words, the party which succeeded to get into the public sphere in the first place will have the possibility to manifest itself again by engaging into a critical discussion about the standpoint and the issues at hand. Finally, being acknowledged will also offer the possibility to a party to relate to other parties in the arena, for example by comparing or combining the original issue with already acknowledged issues. A newcomer can therefore become an important participant in the arenas of public debates.

The third criterion of success in the public sphere points to the possibility to influence the issues of general interest and to participate to some extent in the process of decision making. This criterion presupposes that the first two have been successfully completed. Simply put it means to *participate in decision making*. By influencing issues of general interest a party can contribute to

maintain and transform dominant forms of discours or in other words values, norms and themes which are considered as important by a majority of the participants in the public sphere. Decisions can be taken either formally, by changing laws or institutions, or informally by establishing new standards of conduct concerning norms, values and customs.

These criteria resemble quite strongly some of the traditional characteristics of argumentation. The first one, to get in, is similar to ethos formulated by Aristotle as a precondition of successful participation. One has to be recognized to be knowledgeable and to present oneself – socially and verbally – in a suitable way in order to be taken seriously as a discussion partner. The second criterion means acceptation as a discussion participant, which is similar to the well-known agreement between parties to settle a conflict of opinion with the help of arguments, already formulated by Plato, for example in the 'Gorgias' or by the pragma-dialectical theory of argumentation. It involves minimally an agreement on the ways by which a conflict of opinion should be settled by specifying certain rules and procedures. The third criterion resembles what is called evaluation in argumentation theory. In an evaluation the parties involved in an argumentation conclude which standpoint can be considered as accepted or rejected.
Public debates have been circumscribed and specified sufficiently in this section. In the following parts of this contribution I will analyze forms of exclusion and mechanisms of participation in public debates, with the question in mind which factors play a role in public debates and how these factors are related to arguments.

3. Forms of exclusion
In Ancient Greece, in Athens, there already existed a kind of democracy with a specific form of public sphere. But only the citizens of Athens could participate, women, foreigners, slaves and children were in principle excluded. In modern times, the establishment of democratic states and appropriate forms of public spheres was a long and difficult process. According to Foucault (1972) a very important process in the constitution of a public sphere was the establishment what can be called normality. In terms of the enlightenment one would say it is the birth of the autonomous individual. This new individual is the cornerstone of the modern social organization, together with a constitution and with the formulation of civil rights. The establishment of normality is based on a categorization of individuals in two categories: the responsible ones and the

irresponsible ones. This last category comprises the fools, the morons and the psychopaths, who cannot be considered as full individuals in the new social order. Only 'normal' individuals can participate in the public sphere, the others are in principle excluded. This form of exclusion has been called by Foucault en Habermas a *constitutive* exclusion. In other words, the exclusion appears as a necessary precondition for a certain type of organization. For example a lecture or a concert can only take place if there are no barking dogs and no crying babies present, just to name two examples. Dogs and babies are therefore excluded from lectures and concerts in a constitutive way.

Quite different from constitutive exclusion are the usual forms of exclusions which can be more or less severe, and which are often designated by the term *inequality*. In our case, we would be interested in the various forms of unequal participation in public debates. In terms of the previous section, constitutive exclusion means that some individual or group can in principle not get in the public sphere. Inequality means that for some individuals or groups it is more difficult to get in and being acknowledged than for others.
Let us consider first constitutive exclusion. This form of exclusion is a very important test case for our question, because if constitutive exclusions occur it would mean that there are factors at work which have nothing to do with arguments. If it can be shown that there are various groups of individuals who cannot participate in public debate because of constitutive exclusion, we will have a very strong argument for the thesis that argumentation does not always play an important role in public debates. This was exactly one of the conclusion of Foucault and also of many feminists.
According to Foucault, the establishment of the categories of 'fools', 'feeble-minded', 'monsters', etc, allowed the establishment of modernity with its public sphere. The rationality characteristic of autonomous individuals has been denied to these categories of exceptional individuals. By the way, to begin with, also other categories of individuals have been excluded from the public sphere, such as criminals, women or foreigners.

Two different questions arise, which are important for our problem. The first one has to do with rationality and the capacity to argue. If individuals who cannot argue at all and who move outside of the usual range of rationality are excluded from public debate, the consequence should not be really serious. It would only mean that the capacity to argue and to act rationally is a necessary condition for

participating in public debate. In other words, the exclusion will only confirm that argumentation is a necessary ingredient of public debate. If however, the capacity to participate is denied to some categories of individuals on the basis that they cannot 'seriously' be rational and argue according to some purely 'ideological' standard and in order to justify the dominant position of other groups, another conclusion will follow.

It should be evident that a clear answer would permit to choose between the two extreme positions on public debate and argumentation which have been formulated in the introduction. Unfortunately, there does not seem any simple solution to the problem raised. At present, it is certain that to begin with too many categories of individuals and groups have been excluded from the public sphere, such as women and fools. During the last two centuries, the shape and the arenas of the public sphere have changed a lot as a result of many struggles and transformations. Habermas (1990), in the new lengthy introduction to his study on the public sphere, published originally in 1962, discusses critical remarks by feminists and Foucauldians. He recognizes on the one hand that his original thesis, that everybody could participate in the public sphere, was a bit simplistic. However, he defends himself against his critics by stating that at least the emergent public sphere had from the beginning a kind of dynamic force which has permitted to include progressively more and more of the initially excluded categories for dubious reasons, such as women. The same argument can be used also for fools. Indeed, modern legislation does not deny any more civil rights to psychiatric patients in general; only in very specific circumstances which are strictly defined and guarded by the law can civil rights be denied to psychiatric patients. In other words, according to Habermas, the public sphere contains a kind of self-correcting mechanism, which will over time eliminate all the unjustified forms of exclusion.

His opponents do not refute this argumentation, but they consider it as very one-sided. They argue that the changing social conditions of living in last two centuries, such as working conditions, family life, political organization, welfare, and social confrontations going hand in hand with these transformations, caused the changes in the public sphere. It is impossible to go here into any further detail of this debate. According to me there are very good reasons to accept partly both positions, and to reject the fact that they reject each other. How can one clearly distinguish between the inherent dynamic of the public sphere on the one hand

and social factors on the other? Even if it can be established that social struggles and changing economic, social and political conditions necessitate a transformation of the public sphere, this does not mean that these struggles are not also fought – at least partly – in public debates. The only conclusion which seems definitely justified is to say that there are social forces regulating the domain of the public sphere and that these forces are not necessarily congruent with one or the other ideal of rationality.

A similar conclusion can be established when considering the problem of the so-called democratic deficit. In a full democracy all the individuals who are concerned by collective decisions should be able to participate in making these decisions. For national states that would mean that all the inhabitants should have a right to participate. However, in most cases, only the national citizens (with the exception of Chili and New-Zealand) have the right to participate in general elections. In other words, there may be a gap between those who at one very specific level participate in decisions through elections and those who are concerned by the same decisions. The magnitude of the gap gives the measure of the democratic deficit. In this case, the logic of the Nation State with its norms of citizenship is in contradiction with full participation on all levels of the public debate. Once more, there is a social factor which limits full participation, because foreigners are excluded from one level of decision. But if these foreigners have a legal status, they can participate on all the other levels of public debate, and in this sense they can at least to some extent influence the process of decision making. In particular, they – and other participants – can put this issue forward in the various arenas of public debates. That is exactly what happened in many countries. This discussions have motivated new compromises, such as the new rights of foreigners to participate in local elections.

As far as unequal participation is concerned, in other words the usual forms of exclusion, the discussion can be kept very short. First of all, the existence of deliberative inequalities has been established by many studies, and cannot be contested. There are many individuals and groups who participate only marginally in the public sphere. For some groups, such as women, the degree of participation has increased in a significant way during this century in many countries, whereas others still have a lot of difficulties to get in and be acknowledged, such as religious minorities. That should not be astonishing, after having established that social factors and forces regulate the public sphere.

These observations warrant the conclusion that the arenas of the public sphere where public debates take place are not open places where everybody is welcome in principle. These arenas are also fields of power, where a multitude of groups and individuals attempt to reach and to defend an eminent position. Getting in and be minimally acknowledged will be influenced by this ongoing power play. In other words, coalitions with established parties on the one hand, and the combination and integration of issues and standpoints to be discussed is a very general practice. The various strategies used, such as agenda setting, coalition forming, the art of presentation, the manipulation of the media, the use of mediating agents, and so on, are the object of many studies. Therefore it seems evident that any satisfactory theory of public debates has to take into account these factors, to limit oneself to the quality of argumentation can be considered as innocent and largely insufficient.

4. Mechanisms of public debate

After having considered forms of exclusion from public debates which point primarily to social factors I would like now to concentrate on the dialogical mechanisms which are largely used in public debates. There are many studies of these mechanisms, such as for example the book of Hirschman (1991) who studied in particular the main fallacies used when rejecting a new issue in public debates. I follow here the terminology of Bohman (1996) who uses the term mechanism is his comprehensive overview, but other authors use also quite different terms.

Bohman does not pretend to present an exhaustive list. As I will use the mechanisms Bohman has studied as a starting point for the present discussion, a quote is needed in order to specify the aim and the limitations of Bohman's study (Bohman 1996: 59): "Here I can only provide an open-ended list of such mechanisms for restoring ongoing joint activity. My list of five such mechanisms does not exhaust the possibilities of public deliberation based on the process of giving reasons and answering others in dialogue. The common thread to all these mechanisms is that they produce "deliberative uptake" among all participants in deliberation -that is, they promote deliberation on reasons addressed to others, who are expected to respond to them in dialogue. This uptake is directly expressed in the interaction of dialogue, in give and take of various sorts."

This quote shows that the mechanisms of dialogical uptake distinguished by Bohman serve to get in and can also play a role in getting acknowledged.

I will start by presenting the five mechanisms.
(1) Making explicit what is latent in common understanding, shared intuitions and ongoing activities. By exchanging and disputing interpretations of this common culture parties can make the underlying principles explicit in novel ways. This dialogical mechanism is appropriate when there is already a large degree of consensus, when there are shared values and when there are no large social inequalities. In terms of argumentation theory one could translate this first mechanism as the set of the argumentative moves which explore presuppositions and implicit arguments.
(2) Application of given norms or principles to a particular case. The dialogical mechanism often used in policy issues of this sort is the give and take between a general norm and its concrete specifications. In these debates on applications of general norms the problem is how to reach a consensus concerning the proper use of a norm or how to use it in new social situations. The debate can also take the form of a dialectic between institutional norms and social reality in which citizens compare justifiable rights claims with factual inequalities. This mechanism can be understood as the set of argumentative moves concerned with the proper use of argumentation schemes.
(3) The articulation of norms and rules, a process in which vague and abstract ideals are made more comprehensive through the discussion of various elaborations of these ideals. This case is different from the previous one, because the issue is not to specify a norm but to make its content richer. The problem will be to elaborate a given norm in a more complex and differentiated way. For example, pluralism and multiculturalism can be understood as elaborations of democracy, and in this sense the debates about the various ways to understand democracy in a multicultural society show the richness of this mechanism of articulation. In argumentation theory there is no evident and simple correspondance because this mechanism make use of presuppositions of various levels, of all the schems of argumentation and also of the art of formulating standpoints in different ways.

These three mechanisms presuppose that there is a substantial common ground or consensus between the parties involved in the debate, which is less the case with the last two mechanisms.

(4) Bringing into play new perspectives and roles, or in other words shifting and exchanging perspectives in the course of dialogue. In complex interactions there

are multiple perspectives and roles, such as the perspectives of organizational and institutional representatives or different perspectives related to the distribution of social knowledge, as for example in the case of the unequal distribution of knowledge between lay and expert perspectives.

This mechanism has been used with some success by ecological movements. Their argument was and is, that the perspective of future generations has to be taken into account. It runs as follows: we have a clear responsability towords future generations, and that means that we should not spoil in irreversible ways the natural environment because in this case future generations will find the world an impossible place to live in. A very interesting analysis of the ecological movement from a perspective of argumentation and debate can be found in Prittwitz (1996).

(5) According to Bohman, the most common dialogical mechanisms not dependent on shared values and commitments consists in back-and-forth exchanges around differences in biographical and collective historical experiences. Different biographical experiences can reveal the limits and the perspectival character of the understandings shared by large groups in the political community. Such differences will be particularly important in the interpretation of needs. Because in this case the instances of norms are usually identified with prototypical members of the groups of the polity, such as race, gender, or class features, with the danger of stereotypical reasoning. This mechanism does not only involve presenting and listening to narratives. Rather, through the give and take of dialogue, the limits of the hearer's understandings become clear as the dialogue shifts between the experiences of the life histories of individuals or groups and the current framework of understandings and norms. The outcome can create new categories. For example, the assumptions of the welfare state depart from so-called 'normal' households. But is has become evident through many interventions in the public sphere that work in the household is not distributed in an equal way between men and women. The same holds for the 'normal' workplace. The feminist movement has challenged these assumptions by presenting the biographical experiences of women. Moreover, an alternative, broader framework of interpretation for understanding has been formulated.

These last two mechanisms can be understood in argumentation theory as taking into account the perspectives of potential participants on the one hand, and as a critical confrontation between general norms and laws and concrete, specific experiences. In this last case, the presuppositions and the facts on which the

common norms and laws are based will be questioned in a critical way, and other facts and experiences will be presented as a new and richer basis for elaborating norms and laws.

This presentation of the dialogical mechanisms used in public debates confirms that argumentation plays a central role in public debates. These mechanisms can be understood as specific applications of the various instruments which argumentation theory has analyzed. A first conclusion must be that argumentation is a basic ingredient of public debates. This is after all not astonishing. What is more interesting is the following. In the presentation of the different mechanisms we always find references to more or less shared values and norms, to social inequalities, to prototypical members of a polity, to stereotypes, to social movements such as the feminist movement or the ecological movement. In other words, these mechanisms have a double identity, they specify the various instruments of argumentations which are used, and on the other they indicate the social conditions of use of these mechanisms. And that is exactly the second conclusion which is important for the present discussion. In public debates, argumentation as such does not guarantee any success, because in each specific case one must also take into account the relevant social factors which permit or restrain the use of argumentation.

5. Concluding remarks

In this contribution I have approached the role of argumentation in public debates in two ways. From a social point of view the various forms of exclusion have been distinguished, and from an argumentative point of view the mechanisms of dialogical uptake have been discussed. Several general conclusions can be formulated on the basis of this discussion. First of all, argumentation appears to be a necessary, but not a sufficient ingredient of public debates. In particular, in order to get in and in order to be acknowledged, a party must present in a suitable way his/her standpoint with the help of arguments. But arguments are often far from sufficient, because if other, established parties do not acknowledge a contribution it will be lost. Established parties with a strong position in the public sphere are not obliged to argue. “Totschweigen”, a German term which means to kill by silence, points to this strategy. In many cases, only the constitution of social movements can help to get acknowledged.

A second conclusion can also be established. Public debates can only be analyzed in a suitable way by using normative approaches of argumentation and also

rhetorical approaches. For example, the presentation of a party, or ethos, and the formation of coalitions involving the use of negotiations cannot be neglected. A third conclusion concerns the fact that in public debates norms and rules will constantly change. They can be transformed in time, by the fact that new parties will participate, or they can be variable in the different arenas where public debate takes place.

In short, a good understanding of public debates presupposes an interdisciplinary approach, where concepts and instruments of analysis of argumentation theory and of the various social sciences should be integrated. This is a particular challenge for argumentation theory, which I think can only survive if it accepts this challenge and if it engages in such an interdisciplinary adventure.

REFERENCES

Bohman, J. (1996) *Public deliberation. Pluralism, Complexity and Democracy.* Cambridge, Mass: MIT Press.

Bourdieu, P. (1982) *Ce que parler veut dire*. Paris: Fayard.

Eemeren, F.H. van, (1987). Argumentation studies' five estates. In: J.W. Wenzel (Ed.), *Argument and critical practice. Proceedings of the Fifth SCA/AFA Conference on Argumentation* (pp. 9-24), Annandale, VA: Speech Communication Association.

Gutmann, A. & D.F. Thompson (1996). *Democracy and disagreement.* Cambridge, Mass: Belknap Press of Harvard UP.

Foucault, M. (1972). *L'histoire de la folie à l'âge classique*. Paris: Gallimard.

Habermas, J. (1981). *Theorie des kommunikativen Handelns*. Frankfurt: Suhrkamp Verlag.

Habermas, J. (1990). *Strukturwandel der Öffentlichkeit.* Frankfurt: Suhrkamp Verlag.

Held, D. (1987). *Models of democracy.* Cambridge: Polity Press.

Hermes (1995). Special issue 17/18, on Communication et Politique. *Hermes* 17/18, Paris: Editions CNRS.

Hirschman, A.O. (1991) *The rhetoric of reaction.* Cambridge, Mass: The Belknap Press of Harvard U.P.

Kersbergen, K. van & I.M.A.M. Propper (Eds.), (1995) *Publiek debat en democratie.* Den Haag: Sdu Uitgeverij.

Maier, R. (1996) Forms of Identity and argumentation. *Journal for the Theory of Social Behaviour*, 26, 1, 35-50.

Prittwitz, V. von, (1996) *Verhandeln und argumentieren. Dialog, Interessen und*

Macht in der Umweltpolitik. Opladen: Leske + Budrich.
Raisons pratiques (1992). Special issue 3, on Pouvoir et Légitimité. Figures de l'espace public. *Raisons Pratiques,* 3, Paris: Editions de l'Ecole des Hautes Etudes en Sciences Sociales.

ISSA Proceedings 1998 – The Case For Cooperative Argumentation

For the past several decades, argumentation theorists and instructors have become increasingly committed to developing and adopting perspectives designed to improve the quality of critical reflection and deliberation. These scholars and ducators are particularly interested in developing an approach to argumentation designed to equip people around the world with the knowledge, skills and understanding needed for ethical and effective decision making. To this end, argumentation scholars are looking anew at basic assumptions within the field.

In this essay, I seek to contribute to this project by focusing on one such assumption. Specifically, I challenge argumentation theorists to reconsider the prevailing assumption that argumentation is inherently oppositional, adversarial, and confrontational. I suggest that a cooperative approach to argumentation theory, practice, and pedagogy provides an alternative grounding, one that overcomes key obstacles to ethical and effective individual and group decision making in diverse practical contexts.

1. The Prevailing Competitive Model

In their landmark treatise on argumentation, *The New Rhetoric*, published in 1969, Chaim Perelman and L. Olbrechts-Tyteca offered a viable alternative to the cartesian dualism dominating the field of philosophy at that time. Perelman, Olbrechts-Tyteca, Stephen Toulmin, Wayne Booth, and other scholars in the New Rhetoric school proposed a theory of argumentation that offered a middle-ground between the certainty demanded by (but never attainable to) formal logicians on

the one hand, and the arbitrariness to which so many scholars and practitioners acquiesced during this time. New Rhetoric scholars sought to provide a rigorous theory of practical reasoning, grounded in history and context, while providing cross-contextual criteria for assessment. This quest for a rigorous, yet contingent approach to practical reasoning continues to drive much productive work in the field. A brief overview of some recent efforts reveals, however, that fulfillment of the work's potential has been hampered by unexamined acceptance of a key underlying assumption.

In their treatise, Perelman and Olbrechts-Tyteca assume that all argumentation is aimed at gaining or increasing the adherence of minds to a thesis. This basic assumption continues to undergird much work in the field today. In her insightful introduction to the Spring, 1996 special issue of Argumentation and Advocacy, for example, guest editor Catherine Helen Palczewski notes that the field continues to rely heavily on an "argument-as-war" metaphor. Even Trudy Govier – who has worked hard to "differentiate argument as rational persuasion from disputes or fights" – nevertheless adopts "vestiges of argument as combat" in her lexicon. Palczewski notes further that Brockriede characterizes argument in terms of "competing claims," while Zarefsky writes of argument as "verbal conflict."

Even Habermas, who pursues argumentation as a tool for achieving understanding, nevertheless "characterizes argument as an adversarial procedure" involving "proponents and opponents" (pp. 164-5). Similarly, in his otherwise laudable effort to link ethics with rhetoric, Herrick (1992) suggests that "rhetoric is oppositional or adversarial by nature" (p. 134).

The extent to which this perspective continues to take hold of the field is most strikingly revealed, however, in its impact on the otherwise innovative perspective advanced by Frans van Eemeren and Rob Grootendorst (1992). Their cutting-edge effort to overcome "both the limitations of the exclusively normative approach exemplified in modern logic and the limitations of the exclusively descriptive approach exemplified in contemporary linguistics" has led van Eemeren and Grootendorst to develop "pragmatic insight concerning speech acts and dialectical insight concerning critical discussion." They have sought to provide "a theoretical framework for analyzing and evaluating argumentative discourse as critical discussion" (xiii).

Van Eemeren and Grootendorst effectively identify and address shortcomings associated with viewing argumentation primarily as a suasory tool. Their perspective provides the basis for adapting argumentation to the critical

discussion context. Grounded with this important insight, van Eemeren and Grootendorst encourage interlocutors to avoid obstacles to effective critical discussion.

Their effort to marry the best of rhetoric and dialectic in the service of critical discussion moves the field forward considerably. Yet even this innovative perspective rests on the potentially limiting assumption that argumentation is inherently oppositional. Van Eemeren and Grootendorst's pragma-dialactical model of critical discussion begins with a "confrontational" stage. Participants are characterized as "opponents" and, at the end of discussion, participants check "balance sheets" to see who "has won the discussion" (p. 184).

In addition to presuming a competitive, oppositional and adversarial framework, van Eemeren and Grootendorst limit their perspective's contributions by presuming its inapplicability to a "context of discovery" (p. 138). From their perspective, argumentation is primarily a tool for resolving disputes, but may be less constructive for the preliminary discovery process.

2. Limits of a Competitive Framework

Van Eemeren and Grootendorst's presumption of inapplicability to a context of discovery helps to underscore some of the limits resulting from adoption of a competitive framework. When participants gather for discussion having already formed their opinions and seeking to persuade others, they are much less likely to encounter others' perspectives with full and open minds and hearts. Among other limitations, they are not likely to approach dialogue with what Martha Cooper (1994) identifies as key to full and engaged discussion. She refers to this central element as "response-ability," the ability to "reach out, recognition of the other, careful listening that allows the other to be heard, empathy that validates what is heard" (p. 3).

Similarly, participants in competitive or adversarial communication contexts tend to be more occupied with listening to reenforce their own perspectives than with listening for understanding. Yet only through development of understanding can participants fully contribute to ethical and effective decision making on complex moral, social and political issues of the day. Seyla Benhabib (1990) provides a fruitful overview of key elements required for the development of understanding. Among these are the will and capacity for reversing perspectives. She writes, for example, of "the capacity to represent to oneself the multiplicity of viewpoints, the variety of perspectives, the layers of meaning whcih constitute a situation" (p. 359). Benhabib emphasizes as well the importance of the will and capacity to

represent to oneself “the world and the other” as seen by the other (Benhabib, 1990, p. 359).

These capacities have always contributed to the context of discovery, as well as to resolution of disputes. However, the advent of the 21st Century significantly increases both their value and significance. As I have argued elsewhere (Makau, 1996), this age of potential global perils calls upon us to develop heightened capacities to reason together. Confronting 21st century challenges responsibly and effectively will require sophisticated capacities to engage in meaningful and effective dialogue across disciplinary boundaries and cultural borders. As Susan Welch (1990) suggests, “the equation of otherness with opposition is a dangerous fallacy because it has effects of truth. To the extent that it is believed, it shapes the relationships between nations and peoples” (p.35). When individuals in critical discussions view each other as rivals, they are inclined to “see differences oppositionally; rather than seeking mutuality, they seek to overcome their rivals” (Makau, 1996, p. 327).

The complexity of issues, technological proliferation, and increased cultural diversity and global interdependence which will characterize 21st century life dramatically heighten the importance of overcoming such obstacles and of constructing effective and ethical dialogic communities. Paoulo Freire (1994) notes insightfully in his last book, the Pedagogy of Hope, for example, that the challenges and opportunities associated with cultural diversity are relatively new phenomena in human history. Demographic changes, combined with technological proliferation, afford more and more people around the globe the opportunity to live and work in culturally diverse settings. As technological proliferation changes patterns of communication and more people around the globe both have the opportunity to, and the expectation of, identifying and addressing complex issues through the use of electronic media, the need and capacity for cross cultural dialogue will increase even further.

Approaching argumentation within a competitive framework limits the prospect of ethical and effective cross-cultural dialogic interaction. Competitive and oppositional frameworks limit, for example, the prospects of full inclusiveness, participation, and reciprocity – three qualities identified by Lana Rakow (1994) as linked with a “communicative ethic that could help guide relations – between individuals, between cultures, between organizations, between countries” (p. 3).

G. Thomas Goodnight (1993) offers similar insights. He invites readers to consider development of “an understanding of argument where critical-rationality and

effective public persuasion productively inform and complement each other" (p. 331). In pursuit of this goal, Goodnight seeks a "responsible rhetoric," one which "takes discourse ethics as its informing dialectic" (p. 333). Goodnight notes that: "a responsible rhetoric is one whose argumentative practices take into consideration in the particular case both the need to engender effective deliberative outcomes and to preserve the communicative relationships that make such action meaningful to all concerned" (p. 335, italics in original).**[i]**

The cooperative model of argument highlighted below provides a framework for Goodnight's vision of a responsible rhetoric. This model marries dialectic with rhetoric – as Goodnight, van Eemeren and Grootendorst, and others aspire to do. Perhaps most importantly, however, this model fulfills Goodnight's vision of a model grounded in a strong relational communicative ethic.

3. A Cooperative Model of Argument

The cooperative model of argument begins by rejecting the assumption that all argumentation is inherently confrontational, adversarial or oppositional. This perspective draws a distinction between competitive argumentation, which "aims at winning something," and cooperative argumentation which focuses on the "shared goal of finding the best answer or making the best decision in any given situation" (Makau, 1990, p. 57). According to this model, "argumentation is defined as the process of advancing, supporting, modifying, and criticizing claims so that appropriate decision makers may grant or deny adherence" (p. 57).**[ii]**

This perspective on argumentation emerged out of an exploration of the United States juridical context. The legal system within the United States is inherently adversarial. Grounded in the belief that the truth has the most optimal chance of surfacing in a courtroom if competing sides are given the fullest opportunity for suasory expression, the legal system adopted in the United States embraces a highly oppositional and adversarial view of legal advocacy. Lawyers for competing sides are expected to do all they can to win their clients' cases. Georgetown Law Professor Carrie Menkel-Meadow (1995), among many others, has recently challenged the efficacy of this approach, particulary for the pursuit of truth and justice. It is beyond the purview of this essay to address the merits of this case (though it will no doubt be clear from what follows that I endorse their critiques). It is worth noting, however, that even within this highly oppositional and adversarial context one can find a cooperative framework of argumentation.

Specifically, the final arbiters in the United States legal system are expected to adopt a cooperative, rather than a competitive, approach to argumentation.

Justices on the United States Supreme Court are expected to give open, fair, and full hearing to all sides in any dispute and to work together, cooperatively and with open hearts and minds, in framing a reasoned and fair decision. Numerous studies of the Court reveal varying capacities to fulfill this vision, but none deny the overarching mandate for and efficacy of such practice if performed fully and well.

The cooperative model of argument borrows heavily from this practical context. This model emphasizes reasoned deliberation, rather than advocacy. Individuals participating in cooperative argumentation are invited to work together in pursuit of reasoned, fair, equitable, and effective decision making. They are encouraged to view one another as resources who together are more likely to find or craft viable and responsible decisions than any individual is capable of discovering or creating. They are invited to share all available information with one another, to bring to bear insights garnered from their diverse backgrounds and experiences, and to participate in the kinds of respectful and open exchanges most likely to result in reasoned deliberations.

Recent scholarship on bioethical decision making endorses such a model for this practical context as well. Jonsen and Toulmin's (1988) overview of the constituent elements of phronesis, for example, reveals close parallels to the elements associated with cooperative argumentation.**[iii]** In A Matter of Principles? (1994), scholars representing the fields of medicine, philosophy, theology and law join Jonsen and Toulmin in embracing the view that contemporary bioethical issues can be resolved only through development and exercise of sophisticated practical reasoning and associated dialogic interactions. Their recognition of the contingency, the complexity, and the particularized and temporal nature of bioethical issues and problems underscores the importance of effective and ethical reasoned dialogue in this and related practical contexts.

As I have suggested elsewhere (Makau, 1997), these characteristics of contemporary social, political, and moral issues combine with "constraints of local location, limited epistemic frames and ambiguity" to create compelling needs for "dynamic dialogic interaction with concrete others whose beliefs, values, and interests differ from our own" (p.56). Only through such cross-cultural dialogic exchanges "can we hope to reason competently and morally" (p. 56) in juridical, bioethical, and other contemporary practical contexts. Benhabib (1992) notes, for example, that critical "judgment involves the capacity to represent to oneself the multiplicity of viewpoints, the variety of perspectives, the layers of meaning which

constitute a situation. This representational capacity is crucial for the kind of sensitivity to particulars which most agree is central for good and perspicacious judgment" (pp. 53-54). Embracing a cooperative, rather than an adversarial, oppositional, or competitive approach to argumentation inspires development of this representational capacity.

Similarly, Cooper (1994) suggests that there are three elements required to develop response-ability: conditions conducive to reaching out in respect to one another, a willingness to listen, and the will and capacity to develop sensitivity to the perspectives of others (p.3). Individuals who come together aspiring to reach a reasoned decision – rather than to win an argument or prize – are much more likely than their oppositional counterparts to listen to one another with fully open hearts and minds, and to share openly and respectfully. Decision makers who come together in the spirit of cooperation are much more likely to work together to reach reasoned, fair, and responsible decisions than are their counterparts who come together with balance sheets designating winners and losers in disputes.**[iv]** Finally, adoption of the cooperative framework in argumentation pedagogy promises to help create the conditions and to develop the capacities associated with Goodnight's vision of a responsible rhetoric. Instructors adopting the cooperative model encourage students to work collaboratively and to share information with one another. Student performances in these classes are assessed not on the basis of persuasiveness, but in terms of their contributions to the group's decision making process. In the cooperative argument learning environment, students are encouraged to view others as valuable resources, rather than as competitors. These classes – grounded in a strong communicative ethic – embrace and develop a connected epistemology.**[v]** Perhaps most importantly, this approach to argumentation theory, practice and pedagogy offers the promise of helping to "transform relationships and the larger culture so that the alientation, competition, and dehumanization that characterize human interaction can be replaced with the feelings of intimacy, mutuality, and camaraderie" (bell hooks, 1984, p. 34).

Numerous issues remain to be explored,**[vi]** including questions of the range and limits of participation in specific deliberative contexts. We do not need to resolve these issues to conclude, however, that we have much to gain and little to lose by adopting a cooperative framework and lense.

Most significantly, abandoning the assumption that argumentation is inherently oppositional, and embracing in its place the cooperative model of argument

proposed in this essay will help argumentation theory fully exploit the "connection of theoretical and practical reasoning through dialectical argument" described by Goodnight as the "genuis of the Aristotelian system" (p. 229). Such an approach both engenders "effective deliberative outcomes" and preserves "the communicative relationships that make such action meaningful to all concerned" (Goodnight, 1993, p. 335). As Goodnight (1993) suggests, "the work of connecting 'a new dialectic' and 'a new rhetoric' is unfinished, but its prospects appear to be quite promising" (p. 339). Adopting a cooperative framework for argumentation theory, practice, and pedagogy will position the field to realize this promise fully as we enter the new millenium.

NOTES

i. Richard Fulkerson (1996) provides an overview of similar efforts in the field of philosophy. He cites Maryann Ayim's call, for example, to replace the "dominant confrontational style" of contemporary western philosophy with an "affiliative nurturant style." He points further to Janice Moulton's critique of what she terms "dualism in philosophy," an approach in which "winning arguments rather than encouraging and developing good ideas becomes the role of the teachers." The work of Michael Gilbert on "coalescent argument" is also featured in Fulkerson's essay, as is my work on cooperative argumentation.

ii. For a detailed overview of this model, see Makau (1990).

iii. For a detailed account of the parallels, see Makau (1993).

iv. Philosopher Martha Nussbaum offers a similar perspective in her book, Cultivating Humanity (1997). She calls upon us to do what we can to foster a "democracy that is reflective and deliberative, rather than simply a market place of competing interest groups, a democracy that genuinely takes thought for the common good" (p. 25). The cooperative model of argument proposed in this essay is designed specifically to achieve this end.

v. For elaboration of this approach, see Belenky, M. F., et. al. (1986).

vi. See Goodnight (1993), p. 339 for a parrticularly fruitful overview of such issues.

REFERENCES

Belenky, M. F., Clinchy, B. M., Goldberger, N.R., & Tarule, J. M. (1986), *Women's ways of knowing: The development of self, voice, and mind*. New York: Basic Books.

Benhabib, S. (1992). *Situating the self: Gender, community, and postmodernism*

in contemporary ethics. New York: Routledge.
Cooper, M. (1994). Postmodernism, feminism, and the ethical subject. In J. J. Jaksa (Ed.), *Proceedings of the third national communication ethics conference* (pp. 305-308). Annandale, VA: Speech Communication Association.
Dye, N. S. (July 11, 1997). *Late night reflections of a college president.* Address to the Cleveland City Club.
Foss, S.K., & Griffin, C.L. (1995). Beyond persuasion: A proposal for an invitational rhetoric. *Communication monographs*, 62, 2-18.
Foss, S. K., Griffin, C. L., & Foss, K. A. (1997). Transforming rhetoric through feminist reconstruction: A response to the gender diversity perspective. *Women's Studies in Communication,* 20, 117-137.
Fulkerson, R. (1996). Transcending our conception of argument in light of feminist critiques, *Argumentation and Advocacy*, 32, 199-217.
Freire, P. (1994). *Pedagogy of hope*. New York: Continuum.
Goodnight, T. (1993). A new rhetoric for a new dialectic. *Argumentation* 7, 329-343.
Herrick, J. A. (1992). Rhetoric, ethics, and virtue. *Communication Studies*, 443, 133-149.
Hooks, b. (1984). *Feminist theory: From margin to center*. Boston: South End.
Jonsen, A. & Toulmin, S. (1988). *The abuse of casuistry: A history of moral reasoning.* Berkeley: University of California.
Makau, J. M. (1990). *Reasoning and communication: Thinking critically about arguments.* Belmont: Wadsworth.
Makau, J. M. (1993a). "Raising Consciousness in the Classroom," *Proceedings of the Second National Conference on Communication Ethics,* J. Jaksa & M. Pritchard (Eds.), (Annandale: SCA, 1993), pp. 1-17.
Makau, J. M. (1993b). Revisioning the argumentation course. *Women's Studies in Communication* 15, 19-91.
Makau, J. M. (1996). Argumentation instruction in an age of global perils. In J. Jaksa and M. Pritchard (Eds.), *Responsible communication: Ethical issues in business, industry, and the professions*. Cresskill, N.J.: Hampton Press.
Makau, J. M. (1997). Embracing diversity in the classroom. In J. M. Makau and R. Arnett (Ed.), *Communication ethics in an age of diversity* (pp. 48-67). Urbana: University of Illinois Press.
Nussbaum, M. (1997). *Cultivating humanity: A classical defense of reform in liberal education*. Cambridge: Harvard University Press.
Palczewski, C. (1996). Special issue: Argumentation and feminisms.

Argumentation and Advocacy, 32, 161-169.
Perelman, C. & Olbrechts-Tyteca, L. (1969). *The new rhetoric.* Notre Dame: University of Notre Dame Press.
Rakow, L. (1994). *The future of the field: Finding our mission. Presented as part of Communication Day activities,* Ohio State University, Columbus.
Van Eemeren, F. H. & Grootendorst, R. (1992). *Argumentation, communication, and fallacies: A pragma-dialectical perspective.* Hillsdale, N.J.: Lawrence Erblaum Associates.
Welch, S. D. (1990). *A feminist ethic of risk*. Minneapolis: Fortress Press.

ISSA Proceedings 1998 – Abductive Limits To Artificial Intelligence In Adjudication Pervasive Problems Of Analogy, E Contrario And Circumstantial Evidence

1. Introduction

Not that long ago the following thesis was defended (as a more or less funny supplement to a doctoral dissertation, as is usual in The Netherlands): *The best circumstantial evidence for the existence of non-human intelligence is the fact that such intelligence made no attempt to contact us* (Kwint, 1997). It may be left to the reader to decide to what extent this argument is analogous, and/or e contrario, whether it relies on circumstantial evidence and whether it may be salvaged from the pitfalls of such arguments. Anyway, it will be argued here that there are limits to artificial intelligence in adjudication, based on problems pertaining to abductive argument in analogy, e contrario and

circumstantial evidence. Such arguments seem to be based upon “original data”, like analogata, denial of legal conditions and circumstantial evidence.
But analogy and e contrario cannot be but based upon underlying general rules and principles and the law as some or other kind of coherent whole. In their turn, such general rules, principles and coherent wholes cannot be exclusively based upon any original data. At best, such data play a subordinate role in validation or justification of general rules and coherent wholes. Analogously, the value of circumstantial evidence depends upon wholes of facts possibly related to such evidence. Such wholes may contain factors explaining circumstantial evidence more adequately than the facts for which proof is wanted may do.
If this holds good, no artificial intelligence may be expected to generate the implicit premisses of abductive argumentation in adjudication. Artificial intelligence is expected to proceed from an input consisting of data derived from the law and from facts, ranging from statute law to specific adjudication and factual evidence, circumstantial or otherwise. Such input appears to be inadequate in principle.

There are quite a few general and abstract arguments against artificial intelligence in the law or at least purporting to show clear-cut limitations to such artificial intelligence. Counter-arguments stressing that the proof of the pudding is in the eating (analogy here too) may not be implausible against such abstractions. However, arguments presented here are to be quite specific, pointing to forms of argument in adjudication which cannot be thought away without completely curbing such adjudication. Analogy, e contrario and circumstantial evidence may seem rather special forms of argumentation, but in fact they are implicitly pervasive in adjudication. Similarity and difference are the life of the law, just as is circumstantial evidence for facts, rarely supported as such facts are by direct and indubitable evidence.
To clarify this particular argument against artificial intelligence in adjudication, the concept of abduction will be explained first. Here, a specific conception of validation of abduction will be proposed, as relying on explication of enthymemes (§ 2). Next, analogy will be explained as abduction of underlying general rules or principles from the original analogon. Analogy will appear to be a particularly weak form of abduction, as the original analogon contributes only a highly marginal part to evidence for analogy. Such evidence consists of implicit general rules and principles, relying upon some or other whole or wholes of the law in their turn (§ 3).

E contrario will be shown to strongly resemble analogy, notwithstanding their standard status as opposites. E contrario is denying the antecedent, equivalent to accepting the consequent, which is indeed abduction. Again, the starting-point of abduction, the legal condition denied, will appear to be only a marginal part of the evidence for the conclusion denied. Some kind of implicit whole or wholes of the law must be invoked here too, in order to exclude alternative sufficient conditions for the legal consequence to be denied (§ 4).
Unjustly neglected in discussion of legal argumentation is the logic of facts. Here the relationships between circumstantial evidence and the facts it purports to ascertain will be discussed. Such relationships appear to be abductive as well. Implicit premisses here amount to exclusion of alternative explanations of circumstantial evidence, validating exclusive explanation by facts for which proof is wanted. The "whole" of the facts possibly having to do with explanation of circumstantial evidence is invoked here (§ 5).
Indeed, it is wholes of some or other kind that bear the brunt of abductive argumentation here, be it some or other kind of principled whole of the law when analogy and e contrario are concerned, or "the whole of the facts" in the case of circumstantial evidence. Wholes of whatever kind are notoriously problematic. Here it suffices to clarify that such wholes and their constituting principles, general rules etc. may not at all be reduced to the original, "raw" data adjudication starts from. This is clear in the discussion of analogy, e contrario and circumstantial evidence, but in fact this irreducibility has a more general background (§ 6).

The fate of artificial intelligence in adjudication seems sealed by now. Successful artificial intelligence is expected to start from input consisting of original data, in order to produce output sufficiently resembling adjudication produced by judges. It does not matter how artificial intelligence is to reach results, as long as there is acceptable match. But such match is impossible in principle, as justification of adjudication cannot but consist at least in part of appeal to judicial authority deciding on general rules and principles and thus implicitly deciding on underlying wholes not completely determined by original data. It is exactly this underdetermination by original data which creates the need for authoritative decision. This is a matter of principle, apart from the practical inevitability to stick to the authority of the courts (§ 7).
Several objections may be put forward against this. First, analysis in terms of abduction of analogy, e contrario and circumstantial evidence may be questioned.

Second, it may be objected that in the practice of adjudication, analogy and e contrario arguments often are no more than repetitions of earlier, comparable arguments, already contained in original data. Third, the conception of "original data" implied here may be too meagre, excluding the interpretative nature of legal data. Fourth, too much may be expected from artificial intelligence here (§ 8).

Of course, artificial intelligence may refute the sceptical view expounded here in at least two ways. It may prove successful in adjudication after all, and/or it may refute the arguments about adjudication expounded here (§ 9).

Though statute law examples are used, it probably goes without saying that arguments concerning legal rules and principles are here to hold good for case law rules and principles too.

2. Abduction

Abductive arguments are endemic in daily life and, as will be shown, in adjudication. More often than not, "the most obvious" explanation of some or other phenomenon is taken to be "the" explanation, excluding other possible and possibly more plausible explanations. Such abduction may be explained and justified in several different ways (Josephson & Josephson ed., 1994, Brewer, 1996). Here it will be explained in terms of necessary and sufficient conditions:

p -> q
q

_____
p

Pirie offers a nice though not very everyday example, although he does not mention the concept of abduction (1985, pp. 7-9):

To those who confuse hopelessly the order of horses and carts, affirming the consequent is a fallacy which comes naturally. An occupational hazard of those who engage in conditional arguments, this particular fallacy fails to recognise that there is more than one way of killing a cat. … This fallacy receives a plentiful airing in our law courts, since it is the basis of circumstantial evidence. … 'She's just a tramp. Girls like that always flaunt themselves before men, and she did appear at the office party wearing a dress that was practically transparent!' (We can all see through this one.)

Are such arguments really fallacious? If so, very many everyday, scholarly and scientific arguments should be disqualified. A slightly disquietening possibility, but not at all to be excluded by logic alone. The example may serve to show the importance of enthymemes in justification here. The argument against the lady (which is of course not to develop in literal abduction) certainly is fallacious at first sight, but may be saved if other sufficient conditions or explanations of her dress may be excluded. Only then the sufficient condition stated in the abduction may be taken to express not just one possible, but the one and only adequate explanation or sufficient condition for what is expressed in the antecedent in the abduction.

To express things in a slightly more formal fashion (though no specific conception of logic is presupposed here):

‘p’ =def ‘The lady is a tramp’
‘q’ =def ‘The lady wears a transparent dress’
p -> q
q

_____
p

is invalid, but may be justified by implicit premises expressing exclusion of alternative sufficient conditions:

r, s, …: alternative sufficient conditions for q

p -> q
q -> [p v r v s v …]
q
¬ r

¬ s
¬ …

____
p

Such exclusion may not always work. Indeed, the lady may answer that she thought the dress to be to most fitting available from a purely esthetical point of view, and so on. Only if such alternative explanations may be discarded, the

abduction may be developed into a valid argument, which of course may still be enthymatic in other respects. Also, exclusion of alternative sufficient conditions may be incomplete. There may be one or more alternative sufficient conditions overlooked, rendering abduction doubtful at best. This justification of abduction has indeed been criticised for its presumption that all possible alternative sufficient conditions can be excluded. Such impossibility is taken to impair logical validity, then (Josephson & Josephson ed., 1994). This is a misunderstanding both of abduction and of logic in general. Logical validity has got nothing to do with truth or falsity of premisses, though doubtful status of premisses of course translates to doubtful status of conclusions.

Apart from exclusion of alternative sufficient conditions, a second line of defence against objections of abductive fallaciousness is more pragmatic than logical in nature, but still relevant here. For example: against the transparently dressed lady it may be put forward that although the "default" explanation chosen may not express a necessary condition, she herself is responsible for such an explanation, as she is expected to know that onlookers will expect in their turn that a dress like that expresses certain intentions toward the other sex.

This may be summarised in terms of responsibility for appearances. In daily life, such communicative, pragmatic justification of abduction may very well do. Such abduction seems inevitable and even indispensable in communication. However, it is precisely this penchant toward taking abduction for granted which may make abduction in the law rather more questionable. Judicial decisions are expected to rely on good argument, as such decisions often concern matters of no small importance and because there is (in general) no controlling and reviewing instance outside the judiciary.

Thus (apart from special cases in civil law, having to do with responsibility for appearances) justification of abduction in adjudication must have to do with exclusion of alternative explanations. Still, the practice of adjudication shows that such exclusion is not always explicated and still worse, that things may go wrong that way. Here this will be explained in some detail in three specific forms of adjudicative argumentation, but this is not to exclude the importance of abduction in other kinds of argumentation in adjudication in the law (and, of course, in other fields).

3. Analogy

The basic problem of analogy probably needs no further explanation here. Analogy does not rely on strict similarity, but on some or other likeness of factors

otherwise different. Civil law adjudication would be inconceivable without such explicit and, still more, implicit appeal to likeness. But how is such likeness to be determined?

Anything may resemble anything in any respect, so how to single out relevant similarities? Several analyses have been tried out on this problem, with more or less unsatisfactory results (Kaptein, 1995, White, 1996). Conventional attempts to analyse analogy are hampered by the mistaken idea that the original analogon, that is, the starting point of argument by analogy, must play a major role in justification of results. However, only underlying general rules or principles may determine relevant similarities. Indeed, such general rules or principles bear the brunt of argumentation by analogy (Kaptein, 1995).

This may be clarified by standard examples of analogy in adjudication. Here a less well-known analogy from Supreme Court of The Netherlands adjudication will figure in explanation of the abductive structure of analogy. Section 276 of the Commercial Code of The Netherlands reads: “No damage caused by a fault of an insured may be paid for by insurance, …” This section is analogously applied to beneficiaries of insurance too (see Supreme Court of The Netherlands, 1976). Behind this is the so-called indemnity principle, determining that insurance is not to lead to enrichment of the insured. This may be formalised as follows, not only clearly showing the main role of underlying rule or principle, but also bringing to light the abductive structure of argument by analogy.

Again, no specific conception of logic is presupposed here.

‘Fault of an insured (etc.) _ no insurance payment’ =def ‘q’
(section 276 of the Commercial Code of The Netherlands)

‘No undue advantage is to be gained through insurance (indemnity principle)’ =def ‘p’

‘Fault of beneficiary _ no insurance payment’ =def ‘r’

[q -> p, q] -> p
p -> r

_____
r

This will not do. Logic is no problem here, but the first premiss of the argument is, as it comes down to a petitio principii. There may be no inference of a general

rule from a specific rule. This is a consequence of the problem of relevant similarities noted before. The problem may also be expressed by noting that ‘q’ may be inferred from widely varying general rules or principles. The highly implausible general rule ‘No damage caused by any behaviour of an insured may be paid for by insurance’ will do here too. Not all such general rules or principles may be relevant and/or plausible, but this is not the point here. However:

[p -> q] may hold, so
[p -> q, q] -> p
p -> r

_____
r

Which amounts to abduction: nothing wrong with the premisses now, but problematic logic this time. The same basic problem props up here too. Almost any general rule or principle may be adduced to infer q. Only by excluding such alternative general rules or principles may the abduction be justified. It would make little sense to formalise this, as there are virtually no limits to such alternative explanations of q.

Here the argument relies not so much upon exclusion of alternatives as upon justification of underlying general rules or principles. Anyway, original analogata play no important role in this respect. Underlying general rules or principles may instead be more or less justified by their proper place in something like the law as a whole, which is of course only marginally determined by original analogata. For example: the indemnity principle may be shown to fit in with the whole of insurance law and civil law, its denial being at odds with other important principles and rules determining insurance law and civil law. The aforementioned section 276, the original analogon, is of course no more than a small detail within these wholes.

On the other hand, the heuristic importance of original analogata may not be underestimated. But as justification of argument they are no good at all. One may even be tempted to deny the existence of argument by analogy altogether. Indeed, analogy may be regarded as pia fraus, or fraudulenta pietas, raising the semblance of solid foundation in specific data of positive law, whereas in fact analogy is not what it claims to be but implicit appeal to wholes underdetermined by original analogata or any specific data.

4. E contrario

Countless anecdotes criticise e contrario, still it is often used, at least in civil law adjudication. Explicit e contrario may be relatively rare, but appeal to some or other kind of difference is the life of the law just as much as appeal to likeness is. The problem of e contrario is obvious: how may it be that the law accepts a kind of argument at odds with simple logic? Starting from the same example again: 'Fault of an insured _ no insurance payment' =def 'a -> b' But a fault of a life insured person may not lead to exclusion of payment, as life insurance is specifically aimed at insurance of risks for relatives of faults of persons whose lives are insured. This exception to general rules of insurance was probably overlooked by the legislature, so e contrario adjudication was unavoidable here. Or: a fault of a life insured person may not be taken to be a fault of an insured person in this connection, or:

¬a

[a -> b, ¬ a] -> ¬b

Which is no good logic of course and brings to light the basic problem of e contrario. Abduction here again, because denying the antecedent may here be taken to be equivalent to accepting the consequent:

[a -> b]->[¬ b -> ¬ a]

The problem seems to disappear when 'a -> b' may be interpreted as a replication or as stating a as a necessary condition for b:

[b -> a, ¬ a] -> ¬ b

But this will not do, as legal consequences are seldom if ever consequences of one specific legal condition only (Kaptein, 1993).

Like in the case of analogy, problems of logic are solved here at the cost of the quality of premisses: *petitio principii* again. Still, e contrario too may be validated by exclusion of alternative sufficient conditions for the legal consequence to be denied, or something like:

c, d, …: alternative sufficient conditions for b

b -> [a v c v d v …]
¬ a

¬ c
¬ d
¬ …

_____
¬ b

Appeal to some or other kind of whole or wholes of the law is just as inevitable here as it is in the case of analogy. Only if no other sufficient condition may be found anywhere in the law, the contested legal consequence may be denied because there is no legal condition for it at all. For example: exclusion of payment by the insurer may also be a legal and/or contractual consequence of the insured not having paid for the insurance. More so than in the case of analogy, relevant legal conditions may be limited by legal procedure. For example: appeal to wholes is largely irrelevant under procedural rules limiting relevant legal conditions to what is brought forward by parties.
Like analogy, e contrario may be regarded as *pia fraus*, or *fraudulenta pietas*, suggesting that denial of a legal condition will do the work while really relying on some more implicit premisses. Again, original data determine little of the desired result, though probably more so than in analogy. Like analogy, e contrario may do well in contexts of discovery, but as such it is no good as justification.

5. Circumstantial evidence
Though almost all argument in the practice of law and adjudication has to do with disputed facts, little or no attention is paid to facts in jurisprudence and theory of legal argumentation (see also Golding, 1984). Here the specific problem of circumstantial evidence will be discussed, though this problem is only one of many having to do with evidence and proof (Wagenaar, Van Koppen & Crombag, 1993).
Circumstantial evidence does not lead conclusively to proof of the facts in question. Its relationship to the facts in question is more or less indirect in some or other way. Or: possible facts in the past for which proof is sought may be part of a historically adequate explanation of the circumstantial evidence presently available, but they may be not. In that sense, proof of facts from the past on the basis of presently available circumstantial evidence is a kind of archaeology (Kaptein, 1998). The issue here is the logic of the relationships between circumstantial evidence and facts for which proof is wanted. Thus the quality of circumstantial evidence in itself, apart from its qualities as proof for facts in

question, is no issue here.

A simple example may clarify these abstractions:
If the landlady killed the boy, then a corpse must be found in the closet (etc.)
A corpse was in the closet (etc.)

_____
The landlady killed the boy (etc.)

The corpse in the closet here figures as circumstantial evidence for the killing of the boy by the landlady. The premisses of this highly simplified argument may be more or less plausible, as the killing by the landlady may well do as an explanation of the corpse in the closet. Also, it may be taken for granted that there was in fact a corpse in the closet. But the logic of the argument is no good, or at best abductive. Again, things may be turned round: no more problems of logic then, but at the price of a highly implausible premiss:

If a corpse was found in the closet, then the landlady killed the boy (etc.)
A corpse was found in the closet (etc.)

_____
The landlady killed the boy (etc.)

The second argument is a *petitio principii* again, steering round the principal problem of circumstantial evidence. The killing may be a plausible explanation of the corpse in the closet, but it remains to be ascertained that it actually is the historically adequate explanation. Again, abduction is here to be validated by exclusion of alternative explanations or sufficient conditions for the circumstantial evidence available:

‘The landlady killed the boy’ = def ‘e’

‘A corpse was found in the closet’ = def ‘f’

g, h, … : alternative explanations for the corpse in the closet

e -> f
f -> [e v g v h v …]
f
¬ g

¬ h
¬ …

_____
e

A difference, at least in degree, with analogy and to a lesser extent with e contrario here is that specific circumstantial evidence may well play a major role in a fully explicit argument validating abduction. Circumstantial evidence may indeed vary from a tiny trace not having any obvious connection to the facts in question to evidence so overwhelming that scarcely any room is left for alternative explanations and thus for doubt concerning the facts for which proof is wanted. However, the basic problem remains the same. As long as there is no direct evidence, alternative explanations of circumstantial evidence cannot be excluded.
Analogy and e contrario may be regarded as more or less innocent varieties of *pia fraus*, or *fraudulenta pietas*. Circumstantial evidence however may well lead to really fraudulent conviction of the innocent, if insufficient attention is paid to the possibility of alternative explanations. This possibility points to the importance of something like “the whole of the facts” having to do in some or other way with circumstantial evidence available.

6. (Principled) wholes
Wholes are notoriously difficult to grasp and this has not just to do with their size. Here, the whole of the law may be understood as relying on notions of consistency and coherence. Consistency as such will not do, though it is an important quality of any set of rules and principles. Coherence goes much further and can only be understood as determined by general rules and principles allowing for the inference of more specific rules (Kaptein, 1996).
In the preceding discussion of analogy and e contrario it already became clear that specific legal rules cannot completely determine underlying general rules and principles. This may be generalised by noting that any set of specific legal rules may be organised in terms of alternative general rules and principles. Not all of such general rules and principles may be equally plausible. However, such plausibility cannot completely depend upon any original data given within a legal order.
This excludes the possibility that analogy and e contrario, though not to be based upon original data specific to them like analogata or legal conditions denied, may

still be indirectly based upon any set of original data constituting the law as a whole. General rules and principles cannot be reduced to any set of original data, though their plausibility does of course depend in great part upon their capacity to better organise the manifold of data of the law than alternative general rules and principles do. So anything like the whole of the law must depend on general rules and principles. Such general rules and principles cannot in their turn be completely determined by any kind of whole or wholes in their turn. What then may be underlying wholes in argument from circumstantial evidence to establishment of facts? This is a still more difficult question than it is in the case of analogy and e contrario, relying as they do on law as a principled whole. What may be "the whole of the facts", if this is a sensible concept at all? Of course it cannot mean: "everything in the world". At best, it may mean something like: everything possibly causally connected to the facts in question. Problems of causation here point to the importance of rules of thumb and other often implicit expectations concerning explanations of occurrences (Wagenaar, Van Koppen & Crombag, 1993, Kaptein, 1999). Such implicit expectations and explanations may seem to render irrelevant many factors in history preceding the facts in question. Their role may be more or less analogous to general rules and principles organising the whole of the law.

This may do in everyday or even not so everyday life, like in Pirie's transparent dress case (§ 2). However, it cannot lead to acceptable certainty on disputed facts in the law. In civil cases, facts may be established by rules of procedure like the absence of any disproof put forward by other parties. In criminal procedure this is of course out of the question. Criminal courts have special responsibilities concerning circumstantial evidence and impression has it that such responsibilities are not always taken seriously (Wagenaar, Van Koppen & Crombag, 1993). Miraculous things may have happened, even if everything seems to plead against a criminal defendant.

That is: things miraculous from the point of view of standard explicit and implicit expectations and rules of thumb on "how things normally happen" but still imaginable in the sense of not to be excluded on the basis of convincing evidence. Not a few convictions are based upon all too common assumptions on how things are happening in the world.

Artificial intelligence may not be expected to do better than humans here. Still, some courts in so-called civilised legal orders have been doing so badly in reasoning about facts that they may be better replaced by a simple kind of

artificial intelligence letting all criminal defendants go free when there is no more than circumstantial evidence against them.

7. Abduction of artificial intelligence

Analogata, legal conditions denied, or pieces of circumstantial evidence as such offer no good reasons for the conclusions purportedly to be inferred from them. So the question concerning the feasibility of artificial intelligence in adjudication is: may artificial intelligence conceivably supply the enthymemes in abduction, as exemplified in analogy, e contrario and argument from circumstantial evidence? For three distinct but related reasons this is highly unlikely.

The first reason already emerged from preceding discussion. Analogy, e contrario and argument from circumstantial evidence depend upon wholes which cannot be completely reduced to any original data. Analogy presupposes principles which presuppose wholes, e contrario presupposes wholes ascertaining that there are no alternative sufficient conditions. Analogously, circumstantial evidence may be useful only if alternative explanations may be excluded. Again, such exclusion presupposes something like a whole of relevant facts. How is any artificial intelligence fed with original data supposed to reconstruct such wholes?

Second, a principled whole or wholes in the law or in the realm of facts may even be impossible in principle, even apart from irreducibility to original data. Well-known criticisms of Dworkin's Herculean conception of law come to mind here (Kaptein, 1996). And even if such a principled whole would be possible in principle, in practice there could be no reasoned consensus on it.

Which leads to the third reason: adjudicative decisions may be more or less justified by reasoned recourse to general rules and principles, referring to something like the whole of the law, but then the question remains how to justify such general rules and principles and wholes in their turn. This is a notoriously difficult question, having inspired countless legal scholars to most impressive or at least more or less mind-boggling intellectual exercises.

Probably the most interesting, though rather theoretical contribution to this is the notion of reflective equilibrium (Rawls, 1971, Dworkin, 1986).

In practice however a very simple principle takes pride of place here. Notwithstanding Hart's principled distinction between finality and infallibility of adjudicative decisions, legal scholars, practitioners and laymen alike take it for granted that law is what judges do (Hart, 1994). How could it be otherwise? Such legal realism may be fatally flawed in as far as it is thought to apply to decisions

as such, but something like it seems unavoidable even after rational reconstruction of principled reasons behind adjudicative decisions.
This means that justification of adjudicative decisions cannot but partly rely on authoritative decision at least concerning underlying general rules, principles and wholes. Of course, judicial authority in its turn ought to rely on the authority of argument, but then it is impossible in principle to completely reduce such authority to argument.
Judicial authority is a most complex phenomenon, having to do with tradition and many more factors outside the spheres of argumentation, logic and principle. It is inconceivable that any kind of artificial intelligence is to take over such a role. Nobody in her right mind would accept adjudicative decisions created by artificial intelligence (though some judges do so badly that one might wish artificial intelligence to step in).
The same holds good for argument from circumstantial evidence. Doubts on uncertain facts have to be settled in the end and again it is up to the judiciary to do so. Still there remains the uncertain feeling that there may be something like objective truth on the past after all. If so, the practical necessity of judicial determination of uncertain facts cannot escape principled criticism of arbitrariness. Which may indeed reduce the difference with artificial intelligence arbitrariness.
It cannot be excluded beforehand that artificial intelligence may reach adjudicative decisions in ways completely different from human heuristics. That is not the problem here. What counts is the quality of conclusions and arguments produced, not the ways in which such conclusions and arguments are produced. This quality cannot but partly depend on judicial authority, not to be replaced by artificial intelligence, however intelligent, in any way.

8. Objections

Several objections may be put forward against this criticism of artificial inteligence in adjudication. First, analysis in terms of abduction of analogy, e contrario and circumstantial evidence may be questioned. Second, it may be objected that in the practice of adjudication, analogy and e contrario arguments often are no more than repetitions of earlier, comparable arguments, already contained within original data. Third, the conception of “original data” implied here may be too meagre, excluding the elementary interpretative nature of legal data. Fourth, too much may be expected from artificial intelligence here.
The first objection cannot be conclusively answered here. Still it remains to be

seen whether more plausible explanations of analogy, e contrario and circumstantial evidence are available or even conceivable. Also, such alternative explanations may well bring to light the very same problems. At least abductive explanations put forward here have the edge over alternatives in at least two respects.

First, such explanations lead to logically valid inference (a problem in alternative explanations) and second, they bring to light hidden backgrounds of analogy, e contrario and circumstantial evidence. The second objection starts from an indubitable fact of adjudication, but is in fact irrelevant. Surely many analogous and e contrario arguments are no more than repetitions of precedents. But this is not the point here. Time and again analogies and e contrario arguments prop up which cannot be derived from adjudication in the past. Adjudication in modern legal orders is full of examples of this, indeed often setting the lead for future adjudication. What matters here is the importance of analogy etc. not featured in adjudication
before.

This objection fails completely in the case of circumstantial evidence. In practice, no two cases of circumstantial evidence are exactly identical and it may even be doubted whether this is a theoretical possibility. To the contrary, it may be most dangerous to take it that circumstantial evidence is identical in consequences for facts of charges (or for contested facts in civil or administrative cases) to consequences decided upon in earlier cases of more or less identical circumstantial evidence.

Third, the conception of original data expounded here may wrongly leave out of account that such data mean nothing without interpretation and that within such interpretation general rules and principles already go hidden. No doubt this objection has some truth in it. However, it is especially in analogy, e contrario and circumstantial evidence arguments that such interpretative loading of original data won’t do the work or may even dangerously develop into uncritical preconceptions.

Analogy cannot be based upon interpretation indeed. One more example: according to section 7a: 1612 of the Civil Code of The Netherlands, selling a house is of no consequence for renters of the house (to simplify things a bit). Analogy here has it that donating a house will have the same consequences for renters, based on the underlying principle that renters are to be protected against any such changes of ownership. Of course there is no sensible interpretation of

the concept of sale including the concept of gift. It is the same with e contrario. Interpretation of a legal condition in such a way that it may lead to a valid e contrario conclusion by itself cannot be plausible, as such interpretation would amount to unacceptable replication (§ 4).

It probably goes without saying that interpretative loading of circumstantial evidence is not only implausible but even downright dangerous. Such interpretation would amount to implicit recourse to normal expectations and everyday rules of thumb, not just leading to abductive failure in argument but to abduction to jail or other undeserved punishment of the innocent as well.

Against the fourth objection it may be conceded that artificial intelligence in adjudication may make sense without going all the way. Artificial intelligence may be much more successful in procedural law and/or in other areas of legal argumentation in which argumentation appealing to undetermined wholes is largely irrelevant. On the other hand the question arises whether such artificial intelligence is really more than advanced data retrieval. The argument expounded here claims no more than that artificial intelligence cannot go all the way.

9. Conclusion

If any artificial intelligence would come up with anything like a refutation of this sceptical view of artificial intelligence in adjudication, the main contention of this article must of course be abandoned.

Such a refutation may take two different forms: artificial intelligence does the job, or artificial intelligence refutes the arguments expounded here. Anyway, who does not like results argued for here may well skip the artificial intelligence part and restrict attention to the abductive logic of analogy, e contrario and circumstantial evidence. Even these abductive results may be abducted by artificial intelligence. However, it is to be expected that before any such intelligence is to be taken seriously, the humane intelligence of artificial intelligence and argumentation specialists will step in.

REFERENCES

Brewer, S. (1996). 'Exemplary Reasoning: Semantics, Pragmatics, And The Rational Force Of Legal Argument By Analogy'. *Harvard Law Review*, 109.

Dworkin, R.M. (1986). *Law's Empire*. Harvard University Press.

Golding, M.P. (1984). *Legal Reasoning*. Alfred A. Knopf.

Hart, H.L.A. ([1961,] 1994). *The Concept of Law.* Clarendon Press.

Josephson, J.R. & S.G. Josephson ed. (1994). *Abductive inference: Computation,*

philosophy, technology. Cambridge University Press.
Kaptein, H.J.R. (1993). 'E Contrario Arguments in Law: From Interpretation to Implicit Premisses: A Reply to Henket, with
some Addenda'. *International Journal for the Semiotics of Law*, vol. VI, no. 18.
Kaptein, H.J.R. (1995). 'The Redundancy of Precedent and Analogy, Or: Eat S**t, Five Billion Flies Can't Be Wrong', In:
Eemeren, F.H. van, R. Grootendorst, J.A. Blair & C.A. Willard ed. *Special Fields and Cases: Proceedings of the Third ISSA*
Congress on Argumentation, Volume IV. International Centre for the Study of Argumentation.
Kaptein, H.J.R. (1996). 'Local Heroes in Law's Empire, or: The Importance of Integrity and Its Redundancy in Dworkin's Law's
Empire' *Archiv für Rechts- und Sozialphilosophie*, Beiheft 60.
Kaptein, H.J.R. (1998). 'Jumping to Conclusions in Criminal Law: Facts, Offenses and the Logic of Loose Ends in Between'
Rechtstheorie, Beiheft 18.
Kaptein, H.J.R. (1999). 'Causation in criminal law' in C.B. Gray ed., *The Philosophy of Law: An Encyclopedia.* Garland Publishing.
Kwint, R.L.J. (1997). *The origin of DMS(P)cies : a survey of the sources and sinks of the two dimethylated sulphur compounds*
B-dimethylsulphoniopropionate (DMSP) and dimethylsulphide (DMS). Groningen.
Pirie, M. (1985). *The Book of the Fallacy: A Guide to Intellectual Subversives.* Routledge & Kegan Paul.
Rawls, J. (1971). *A Theory of Justice.* Belknap Press of Harvard University Press.
Supreme Court of The Netherlands (1976) 'Winterthur-arrest'. *NJ* 1978, 114.
Wagenaar, W.A., P.J. van Koppen & H.F.M. Crombag (1993). *Anchored Narratives: The Psychology of Criminal Evidence.* Harvester Weatsheaf & St. Martins Press.
White, J. (1996). 'Analogical reasoning', In: D. Patterson ed., *A Companion to Philosophy of Law and Legal Theory.* Blackwell
Publishers.