ISSA Proceedings 2006 – A Methodological Approach To Argument Evaluation

1. *The methodological approach to argument evaluation defined*

The methodological approach to argument evaluation may be expressed by the following claim: argumentation can be successfully evaluated by applying tools elaborated by the general methodology of science. Among those tools, there are rules of performing various knowledge-gaining procedures such as reasoning, questioning, defining, and classifying objects. In what follows I call these rules methodological. At first glance this approach is plausible, because the argumentation theory and the methodology of science have in fact a common aim: to establish rules for evaluating activities of some special kinds. In the case of argumentation theory, these are speech acts performed within an argumentative discourse; in the case of methodology these are knowledge-gaining activities performed either in scientific research or in everyday life. The aim of this paper is to show that this approach works. I illustrate its usefulness by discussing two cases of argument evaluation by means of the rules of defining elaborated by the methodology of science.

Although elements of the methodological approach to argument evaluation are present in philosophy, informal logic, and argumentation theory, they have not so far been systematically elaborated. By "elements of the methodological approach to argument evaluation" I mean claims concerning applications of various methodological rules to evaluation of arguments. Some of these claims have been advanced or examined by thinkers who belong to various philosophical traditions. Among them I mention Jaakko Hintikka who points out to the need of evaluating arguments within the framework of questioning (e.g. 1984a; 1984b; 1992); Douglas Walton who examines fallacies of questioning, also by means of some methodological rules of questioning and answering (1991) and analyzes some rules of formulating persuasive definitions (2001); Alvin Goldman who applies some rules of justification (which are also applied by the methodology of science) within the epistemological approach to argumentation (2003); Louise Cummings

who shows the relation between scientific norms and argument evaluation (2002). I should also mention Polish philosophers and methodologists from the Lvov-Warsaw School: Kazimierz Ajdukiewicz who develops the program of pragmatic logic (1974) within which methodological rules of performing various knowledge-gaining procedures are elaborated and Tadeusz Czeżowski who formulates such methodological rules for the procedures of describing and defining (2000).

A careful analysis of the elements of the methodological approach to argument evaluation present in writings of the philosophers listed above shows that many methodological rules are in fact used in argument evaluation. This is why they deserve to be described in a systematic way.

A possible set of methodological rules which are to be used in argument evaluation is based on the list of some typical knowledge-gaining procedures which are investigated by the general methodology of science. Among these procedures the most significant are:
(1) reasoning,
(2) questioning,
(3) defining,
(4) classifying objects and
(5) formulating and testing hypotheses**[i]**.

Some of those methodological rules are found in textbooks and in some research papers in informal logic and the argumentation theory. Are those methodological rules substantially different from the rules elaborated in these fields, for example from the pragma-dialectical rules for argument evaluation? According to the understanding of methodological rules accepted in this paper, there is no sharp boundary between logical, methodological or pragma-dialectical rules for argument evaluation, because all those disciplines investigate knowledge-gaining procedures. From an epistemic point of view all those rules constitute one kind.
Although there exist some satisfactory descriptions of particular methodological rules (for example the rules of questioning as elaborated by Hintikka), there is still a need to gather them in a form of a systematically elaborated list as methodological rules for argument evaluation. So the central task for the methodological approach to argument evaluation is to establish a possibly unified set of methodological rules, which can be used in argument evaluation and then to show how these rules can be applied. None of these tasks is in fact undertaken in this paper. The aim is much more limited: taking as an example the rules of

defining I am going to show how preparing such a list and applying it can be started.
The application of methodological rules in argument evaluation consists in comparing them with rules that govern real life cases of argumentative practices performed either in scientific inquiry or in everyday life.
The choice of the procedure of defining is justified by the fact that definitions play a crucial role in argumentation. So in order to show how the methodological approach to argument evaluation works I start with describing the role of definitions in argumentation, and then I consider the role of the rules of defining in argument evaluation.

2. *Definitions in argumentation*
Many argumentation theorists and (informal) logicians, either in their research works or in textbooks, point out to the importance of definitions in argumentation. Some remarks on the role of definitions in argumentation can be found in works of e.g. Walton (1980; 2001), Marciszewski (1993; 1994), Viskil (1994), Govier (1997), and van Eemeren and co-researchers (van Eemeren, Grootendorst & Snoeck Henkemans 2002).
The crucial role of definitions in argumentation**[ii]** is revealed by the fact, that redefinitions of some key terms used in science and in everyday life are necessary either in scientific or in public policy discourses (Walton 1980, p. 16; 2001, pp. 120-122; Marciszewski 1994, p. 212; Govier 1997, pp. 98-99). Argumentation theorists also stress the fact that formulating definitions is helpful for discussion parties to proceed with a discourse. Van Eemeren, Grootendorst and Snoeck Henkemans remark that
To ensure that they are both talking about the same thing, the participants may decide to assign *definitions* to the main terms relevant to the discussion (2002, p. 174).

However, definitions in argumentation are seldom formulated in an explicit way. In everyday life, cases, when at a certain stage of a discourse the parties explicitly agree: “let us now formulate definitions of crucial terms relevant to our discussion” are rather rare. Using terms without requiring to define them is much more common. Yet, it does not mean that tools for evaluating definitions are not useful, for it is always possible to extract relevant implicit definitions, and then to evaluate them and thereby also to evaluate argumentation itself.
What are the reasons for applying rules for defining in argument evaluation? Two

basic should be indicated.

The first of them appeals to the organizing role of definitions. As Marciszewski (1994), a Polish logician and methodologist of science, observes, definitions organize argumentative discourse in a systematic way. Definitions accepted at the beginning of a discourse may set the direction of a discussion and even the way of discussing. In some cases, good definitions can give a form of a good argumentative discourse by setting the whole strategy of discussing. If one of the parties is not conscious of the role of definitions (or has no proper tools to evaluate definitions), she or he can be misled by the other party. This organizing role of definitions is revealed by the fact that good definitions formulated within a discourse help to reconstruct standpoints, and therefore to establish where the main point of disagreement lies (see also Viskil 1994, p. 79). The consequence of assigning definitions a crucial role in argumentation, is clearly expressed by Marciszewski:

The centre of gravity of intelligent arguing lies in the art of defining (1994, p. 218).

We should here notice that evaluating a given definition is not the same as evaluating a whole discourse. However, if we accept Marciszewski's claim quoted above, we should also agree that evaluating the definition accepted at the beginning of a discourse heavily bears on the evaluation of the whole discourse. So, evaluating definitions which are relevant for a given discourse and evaluating arguments performed within that discourse are interrelated. Moreover, as Walton (1980) shows in his analyses of real definitions (in contrast to nominal definitions) in ethical discourses, definitions can be explained by the metaphor of a target:

A good definition is a target that indicates what it is that the criteria are supposed to determine. Insofar as the target is clearly articulated, it can have a legitimate function in shifting the burden of proof in moral arguments, and should not always be lightly brushed aside (1980, pp. 16-17)**[iii]**.

So, if we formulate good definitions of main objects (or terms) of our discussion, it is highly probable that our discourse turns out to be reasonable and successful.

The second reason for applying rules of defining in argument evaluation appeals to the fact that one of the fundamental conditions of resolving a difference of opinion – what is the central goal of any reasonable argumentative discourse (van Eemeren & Grootendorst 1992, p. 13) – is parties' common understanding of terms. Sometimes one's view is expressed by means of ambiguous, vague, or fuzzy concepts. In such a situation we are entitled, or even obliged, to require

definitions. This idea is expressed by Copi & Cohen (2005, p. 92): if some disputes arise only as a result of purely verbal misunderstandings, then we often need to recourse to good definitions. Yet, if an error in defining is committed, then – regardless of the validity and soundness of argumentation – a discourse turns out to be unsuccessful. In such cases, definitions can be seen as obstacles for a successful argumentation (see Viskil 1994, p. 80). Again, we can remark that good definitions accepted at the very beginning of a discourse may constitute the point of departure for a successful argumentative discourse.

Thus, if we agree that definitions play crucial role in argumentation, we may safely conjecture that the rules for proper defining play an important role in evaluating various pieces of an argumentative discourse.

3. *Some rules of defining in argumentation – two case studies*

A discipline whose task is to investigate the procedure of defining is the general methodology of science. Among various kinds of rules, the methodology formulates the rules for recognizing errors of definitions. Two types of such rules are important for my analysis: structural and pragmatic. The structural rules tell us what the proper structure of a given kind of definition should be. They allow to identify for example definitions which are too broad, too narrow, or viciously circular. As examples of such structural rules I may mention the following (see, e.g., Searles 1956, pp. 55-57; Layman 2005, pp. 103-104):

(1) A definition should not be circular.
(2) A definition should not be too broad.
(3) A definition should not be too narrow.
(4) A definition should not be negative if it can be affirmative.

The pragmatic rules of defining concern the context in which definitions are used. They are applied to identify such errors of defining as ignotum per ignotum, or confusing various kinds of definitions**[iv]**. As examples of such pragmatic rules I may mention the following:

(1) "A definition is flawed if the definiens picks out the right extension via attributes that are unsuitable relative to the context or purpose" (Layman 2005, p. 105).
(2) Descriptive definitions should not be confused with normative ones.
(3) Lexical definitions should not be confused with stipulative ones (Ajdukiewicz 1974, Ch. 5).
(4) Real definitions should not be confused with persuasive ones (Ajdukiewicz

1974, Ch. 5).
(5) In a real definition only essential (or relevant) attributes of the defined object should be included (Searles 1956, p. 56; Czeżowski 2000, p. 69).
(6) Among the essential (or relevant) attributes we should choose the constitutive ones (those which determine the whole), and disregard consecutive attributes (those which are dependent on and determined by the constitutive attributes) (Czeżowski 2000, p. 69; see Koszowy 2004, p. 127).

By means of both kinds of rules methodologists are able to judge whether an inappropriate kind of definition is used. Some general rules for defining are also implicitly present in argumentation theory. Viskil (1994) mentions three conditions of formulating proper definitions. According to him:
In order to give guidelines for formulating recognizable definitions, it is necessary to establish first what definition amounts to, which types of *definition* can be distinguished, and what their characteristic properties are (1994, p. 80).

Last two conditions given by Viskil may be captured in terms of the following rules of defining: various types of definitions should not be confused; essential properties of a given type of definition should be respected. These rules can in fact be found on a list given above.
As another example of the presence of the rules of defining in argumentation theory I shall briefly consider one of ten rules for critical discussion formulated within the pragma-dialectical approach to argumentation developed by van Eemeren & Grootendorst (1992). Rule 10 states that:
A party must not use formulations that are insufficiently clear or confusingly ambiguous and he must interpret the other party's formulations as carefully and accurately as possible (1992, p. 209).

Although this rule does not contain any explicit reference concerning defining, it can be treated as an implicit directive for the parties to apply rules of defining in discussion. For this rule clearly points to the rules of defining: one of the necessary conditions of respecting this rule requires to use terms which do not cause the other party to interpret my standpoint inaccurately. Thus, in fact, respecting this rule requires proper definitions of key terms when necessary or required. How a general procedure of evaluating arguments by means of the rules of defining looks like? Some examples can be built upon Layman, who explicitly says about "using definitions to evaluate arguments" (2005, p. 110). In his standard textbook Layman gives an example of a definition which breaks the rule:

“a definition should not be too narrow”:
“Bird” means “feathered animal that can fly”.

Let us develop Layman’s example by supposing that the whole discourse was built upon this definition. How to evaluate such a piece of a discourse? We can remark that the discourse is based on an inadequate definition of the term “bird”. The rule that tells us that the definition should not be too narrow is violated, because definiens (a phrase, which is used to define) does not apply to some objects in the extension of the definiendum (that, what is defined). For example kiwis or cassowaries fall under the provided definition of the term “bird” – they are feathered but do not fly. So conclusions of that discourse would not apply to kiwis and cassowaries. If the other party included kiwis and cassowaries into the extension of the term “bird”, she or he would be ready to dismiss the conclusions. So the discourse would be unsuccessful. This simple example of the procedure of evaluating a piece of an argumentative discourse illustrates the general way of applying rules of defining in argument evaluation.

A good illustration of the procedure of evaluating definitions in research is given by the analysis of definitions of critical thinking made by Johnson (1996). According to Johnson, definitions of critical thinking present in literature belong to the type of definitions called “stipulative”. In his analysis of those definitions he appeals in fact to the rule of defining governing this type of definitions: that stipulative definition should broadly reflect of current practice (1996, p. 228). So, he would disregard certain definitions of critical thinking because – according to him – they violate this rule.
Case studies of definitions playing a central role in public discourses can be easily found in works of informal logicians and argumentation theorists. For example, Walton examines cases of evaluating persuasive redefinitions of terms which had already been defined in science and public policy usage (2001) or of formulating stipulative definitions in ethical discourses (1980). I shall also examine two cases of definitions. My aim is to show how violations of some particular methodological rules bear on evaluating a discourse.

Case one: the debate over euthanasia
Let us suppose that two parties debate whether euthanasia should be legalized. Let us also assume that one party persuaded the other that the term “euthanasia” refers to the active help to stop somebody’s unbearable suffering. If this definition of euthanasia is accepted, then the issue is immediately solved because everybody

agrees that it is a morally noble thing to stop ones unbearable suffering and doing morally noble things should not be forbidden by law. In this case the methodological rule of not confusing the real and persuasive definitions (rule 4 on our list of pragmatic rules) is violated. Real definitions should capture the essence of the thing defined; persuasive definitions aim at changing the attitude towards a defined phenomenon. In this case the persuasive definition is claimed to be an essential definition, but it is not. So the definer may hope that the opposite party shall not notice that persuasive definition has been used as if it was a real definition, and by accepting it the party will be forced to agree to legalization.

Case two: the debate over the restriction on the use of the Internet
Let us suppose that two parties debate whether any restrictions on the access to the Gobal Information Infrastructure (GII) are justified. Let us also suppose that both parties agree that the GII is the source of information. The party who is skeptical about any restrictions on the Internet, advances the following definition: the term "knowledge" in its common use refers to the sum of information. After formulating this definition the party proceeds by advancing the argument: if "knowledge" refers to the sum of information, so the more information we collect, the more knowledge we possess; and as we all know, the Internet allows us to gather various kinds of information, so it gives us an excellent opportunity to extend our knowledge of the world. Therefore the access to the GII should not be restricted.
Also here the case is solved if this definition of the term "knowledge" is accepted. Nobody disagrees that we have the right to achieve knowledge. So there is no reason to restrict the access to the GII if it gives us knowledge. In this case the methodological rule to distinguish between a lexical definition of the term as commonly understood in a given language and a stipulative definition which projects the meaning of a given term (rule 3 on our list of pragmatic rules) is violated.

In both cases the definitions in fact implicitly contain what is apparently argued for. Walton remarks that persuasive definitions "are very often, in a clever and subtle way, deployed to serve the interest of the definer" (Walton 2001, p. 117). It seems that this characteristic refers not only to persuasive definitions, but also to other practices of defining. One of such practices is using question-begging definitions. T. Edward Damer describes this case as follows: the question-begging definition makes a given claim true by definition, "by subtly importing a highly

questionable definition of a key word into one of the premises" (Damer 2001, p. 106).

The cases discussed illustrate the general mechanism of violating the rules of defining within argumentative discourse: when – by using tricky definitions – the definer achieves her or his goal, the whole discourse becomes unnecessary, because the issue is "solved" in the moment of accepting the definition. In such cases the difference of opinion only apparently disappears. If one confuses definitions introduced into a discourse on purpose, i.e. if one breaks the general rule of not confusing types of definitions on purpose, we have a case of manipulation.

4. *Concluding remarks*

The methodological approach to argument evaluation cannot be seen as the only fruitful approach to argumentation. Yet, the application of the methodological rules in argument evaluation can be inspiring as another perspective in a variety of approaches to argumentation, along with pragma-dialectical approach to argumentation or with epistemological approach to argumentation. This perspective is in agreement with working in the spirit of the Polish school of methodology, developed both by the Lvov-Warsaw School (especially Ajdukiewicz and Czeżowski) and by the Lublin School of Philosophy (especially Stanisław Kamiński) (see, e.g., Koszowy 2004). Hence, the methodological approach to argument evaluation can be treated as an approach that helps to broaden our understanding of argumentation. This claim concurs with the more general claim expressed by many informal logicians and argumentation theorists: various scientific and philosophical traditions applied together can better fulfill the commonly accepted goal: to describe and evaluate the rich phenomenon of argumentation.

As the examples discussed above show, definitions employed in argumentation bear on the reasonableness of a discourse: if one defines objects or events improperly, a discourse may lead to false conclusions; if one uses persuasive definitions, a discourse becomes persuasion, or even manipulation, not argumentation. The obvious result is that the main goal of argumentative discourse – resolving a difference of opinion – is not achieved. Thus, the evaluation of definitions is the very first step in evaluating the whole argumentation. So, my choice of the procedure to be considered is not accidental. Moreover, definitions in argumentation are often implicit, so usually we do not pay enough attention to them. As I tried to show in this paper, we definitely

should.

The idea of taking a closer look at definitions in argumentation follows Walton's remark which suggests that some case studies of the uses of persuasive definitions show the rhetorical role of definitions. This role reveals the need of elaborating a new approach to evaluating definitions in argumentation (Walton 2001, p. 117). The methodological approach I started to develop in this paper may constitute part of the new approach suggested and elaborated by Walton.

Taking into account the knowledge-gaining procedures listed in this paper, the obvious next step to developing the methodological approach to argument evaluation would be to list methodological rules that are applied in evaluating other knowledge-gaining procedures, which are employed in argumentation. For example a paper concerning applications of the rules for questioning which is another important knowledge-gaining procedure should be written in the future.

So, the task of building the methodological approach to argument evaluation is still to be realized. Although the full power and profits of this approach to argument evaluation are still to be revealed, developing this approach seems to constitute a reasonable research program.

NOTES

[i] The list of knowledge-gaining procedures can be useful also in the context of fallacies committed within reasoning, questioning, defining, etc. This list constitutes the starting point for analysing the rules for identifying fallacies. The idea of identifying some fallacies by means of the methodological rules elaborated by philosophers from the Lvov-Warsaw School (see Koszowy 2004), was inspiring for proposing the more general project of the methodological approach to argument evaluation, as presented in this paper.

[ii] There are important philosophical debates over the theory of definition. One of them concerns essentialism in the theory of definition (Walton 2001, pp. 124-125). However, I shall not consider the philosophical presuppositions of defining, because I focus on applying rules for defining in argument evaluation.

[iii] The term "criteria" used here by Walton refers to empirical criteria that should be taken into account when formulating a real definition, i.e. a definition of an object, not a definition of a term.

[iv] These distinctions are explained in Robinson (1950) and in many textbooks of logic and methodology of science, among others in Searles (1956, Ch. 3), Ajdukiewicz (1974, Ch. 5), Marciszewski (1994, Ch. 8), Copi & Cohen (2005, Ch. 4), and Layman (2005, Ch. 3). Some of these distinctions, with more references to

the literature, can be found in Viskil (1994). The difference between normal and implicit definitions is explained in Marciszewski (1994, pp. 203-206).

REFERENCES

Ajdukiewicz, K. (1974). *Pragmatic Logic.* Trans. O. Wojtasiewicz. Dordrecht: D. Reidel.

Copi, I.M. & C. Cohen (2005). *Introduction to Logic*, 12th ed. Upper Saddle River: Prentice-Hall.

Cummings, L. (2002). Reasoning Under Uncertainty: The Role of Two Informal Fallacies in an Emerging Scientific Inquiry. *Informal Logic* 22, 113-136.

Czeżowski, T. (2000). *Knowledge, Science, and Values. A Program for Scientific Philosophy*. Amsterdam/Atlanta: Rodopi.

Damer, T.E. (2001). *Attacking Faulty Reasoning. A Practical Guide to Fallacy-Free Arguments,* 4th ed. Belmont, CA: Wadsworth/Thomson Learning.

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

Eemeren, F.H. van, R. Grootendorst & F. Snoeck Henkemans (2002). *Argumentation: Analysis, Evaluation, Presentation*. Mahwah, NJ/London: Lawrence Erlbaum Associates.

Goldman, A.I. (2003). An Epistemological Approach to Argumentation. *Informal Logic* 23, 51-63.

Govier, T. (1997). A Practical Study of Argument, 4th ed. Belmont, CA: Wadsworth.

Hintikka, J. (1984a). Rules, Utilities, and Strategies in Dialogical Games. In: J. Hintikka & L. Vaina (Eds.), *Cognitive Constraints on Communication* (pp. 277-294), Dordrecht: D. Reidel.

Hintikka, J. (1984b). The Interrogative Approach to Inquiry and Probabilistic Inference. *Erkenntnis* 26, 429-442.

Hintikka, J. (1992). The Interrogative Model of Inquiry as a General Theory of Argumentation. *Communication and Cognition: An Interdisciplinary Quarterly Journal* 25, 221-242.

Johnson, R.H. (1996). The Problem of Defining Critical Thinking. In: R.H. Johnson, *The Rise of Informal Logic. Essays on Argumentation, Critical Thinking, Reasoning and Politics* (pp. 216-229, Ch. 12), Newport News, VA: Vale Press.

Koszowy, M. (2004). Methodological Ideas of the Lvov-Warsaw School as a Possible Foundation for a Fallacy Theory. In: T. Suzuki, Y. Yano & T. Kato (Eds.),

Proceedings of the 2nd Tokyo Conference on Argumentation and Social Cognition (pp. 125-130), Tokyo: Japan Debate Association.
Layman, C.S. (2005). *The Power of Logic*, 3rd ed. Boston: McGraw Hill.
Marciszewski, W. (1993). Arguments Founded on Creative Definitions. In: E.C.W. Krabbe, R.J. Dalitz & P.A. Smit (Eds.), *Empirical Logic and Public Debate. Essays in Honour of Else M. Barth* (pp. 169-182, Ch. 12), Amsterdam/Atlanta: Rodopi.
Marciszewski, W. (1994). *Logic from a Rhetorical Point of View*. Berlin/New York: W. de Gruyter.
Robinson, R. (1950). *Definition*. Oxford: Oxford University Press.
Searles, H.L. (1956). *Logic and Scientific Methods. An Introductory Course*, 2nd ed. New York: The Ronald Press Company.
Viskil, E. (1994). Definitions in Argumentative Texts. In: F.H. van Eemeren & R. Grootendorst (Eds.), *Studies in Pragma-Dialectics* (pp. 79-86, Ch. 7), Amsterdam: Sic Sat.
Walton, D.N. (1980). The Ethical Force of Definitions. *Journal of Medical Ethics* 6, 16-18.
Walton, D.N. (1991). Critical Faults and Fallacies of Questioning. *Journal of Pragmatics* 15, 337-366.
Walton, D.N. (2001). Persuasive Definitions and Public Policy Arguments. *Argumentation and Advocacy* 37, 117-132.