Logic4Peace

fundraising online logic event for peace, April 22-23, 2022

BOOK OF ABSTRACTS

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Logic4Peace — fundraising online logic event for peace

22-23 April 2022

Logicians participating in this conference stand united for peace.
Logic4Peace invited contributions in any area of logic, including:

- philosophical logic, philosophy of logic and history of logic;
- mathematical and computational logic;
- applied logic and logical structures used in science and the humanities.

All registration fees and donations were spent on two specific causes: to help our colleagues in Ukraine in this time of war, who are either displaced or have lost their homes, and to support the charitable fund 'Voices of children' which provides humanitarian aid and assists with the on-going evacuation processes.

`https://events.illc.uva.nl/Logic4Peace`

Last update of this file: June 24, 2022

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Artificial relevance as a way to strengthen an argument

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The practical teaching of critical thinking and argumentation theory forces us to revise some formal approaches. Indeed, the argumentation hardly can be formalized with all the nuances which influence it in common communication. Sometimes surplus formalization simplifies the argumentation too much. Nevertheless, the presence of a formal basis in an argumentation facilitates to analyze it more clearly. Also, a certain formalization allows us to identify some successful argumentative strategies that allow changing the agent's beliefs. The necessary formalization makes it possible to describe successful methods and approaches which let us improve our argumentation.

We often face a situation where the evidence-based argumentation of a true thesis, using true arguments and logical consequences, is unsuccessful. It does not achieve its goal, because it does not change the beliefs of the agent of the argumentation. The argumentator is confident in his rightness and his skill and from the point of view of logic, she does everything right. At the same time, it seems that the agent simply denies the obvious facts. Or, for example, he declares that he does not like the argumentator‘s way of thinking, or does not like the arguments. This behavior of the agent of argumentation is often called irrational and associated with his emotional characteristics. In such cases, the argumentator often prefers to stop the argumentation, believing the agent to be hopelessly stubborn. The subjective characteristics affecting the perception and evaluation of the argumentation are often called emotional and considered irrational. Again, the emotional aspects of argumentation are believed cannot be formalized.

We believe that there is a large part of the characteristics of argumentation, which is considered as a result of subjectivity, but they can be formalized at least particularly. In our opinion, some of the subjective reactions of an argumentation agent are determined not so much by his emotional or personal characteristics, but by the presence of implicit components of the agent's epistemic state, which can be explicated and formalized. Moreover, the identification of these components makes it possible to use them to refine the argumentation strategy.

Strength and relevance are the essential characteristics of an argument. Usually, we consider a few types of relevance: formal relevance or relevance to the audience/thesis. Most frequently, we focus on explicit characteristics of an argumentation process and specify the relevance of an argument to them. A good strong argument should provide a stable and branched justification chain for the thesis. In this way a strong argument entrenches the thesis, using the agent‘s own beliefs. In other words, a strong argument not only proves the thesis but also fits into the agent's beliefs. Notably, the justification chains supporting the argument descend to beliefs that were not explicated at the start of the argumentation. They are present in the agent‘s view, but they are not spoken out and are sometimes not realized. These additional beliefs are not explicitly relevant to the thesis of the argument, but they are taken out of necessity, in the process of argument mining.

Let us consider an argumentator who tries to change the position of a certain agent. The position of an agent of argumentation is the set of statements believed by the agent. The statements are relevant to the thesis of argumentation. Usually, this set is not closed, even if the

agent thinks so. The openness of the position is determined by the implicit presence of some basic principles (values), which are not included in the position explicitly. However, these principles provide epistemic entrenchment of the statements by implicit justification chains that the agent considers intuitively clear.

Basic principles are resistant to change, and they show a person's understanding of the world, his/her place in it, and self-perception. These principles are formed by the influence of culture, traditions, socially and individually significant roles. They arise from repeated experiences and reproduction in ordinary social practices. The basic principles are not directly relevant to the thesis of the argumentation. But they are general enough to be able to generate justification chains supporting or refuting any argument. How does it happen? Evaluating the incoming argument, the agent tries to fit it into his view, to build it into the existing justification chains. A sufficiently strong argument must either fit in, remake these chains, or create new ones. But an incoming argument can be discarded if it is inconsistent with some basic principle, irrelevant to it, or its acceptance has consequences that undermine the basic principle.

Basic principles by starting a justification chain act as a kind of "magnetic poles" of argument assessment. They attract relevant arguments and turn down irrelevant ones. The agent considers relevant arguments as strong ones and ignores or rejects the irrelevant ones. Moreover, the justification chain usually remains hidden both for the agent and the argumentator. The agent refuses valid arguments, referring to some strange reasons. For example, an agent says that he doesn't like it, it isn't convenient to him, and it doesn't convince him. This may seem like an emotional reaction, but we assume it is caused by rejecting arguments with some implicit basic principles. In this connection, it makes sense to consider the relevance of the argument to basic principles, which can be artificially created by the argumentator.

Thus, an argument can be valid, but weak for the agent, because it is not relevant to some basic principle. In this case, it can strengthen or weaken the argument in an unobvious way. Nevertheless, an argumentator can use this feature if she/he manages to find out an appropriate principle. The basic principles are quite general, so they allow the building of a wide variety of justification chains. Thus, the task of the argumentator is to find or reasonably assume such a principle and create an auxiliary argument that should be obviously relevant to the basic principle and, together with it, should generate a justification chain that supports an initially stated thesis or the main argument. How can we discover this principle? It can be found by accident or inferred from the argumentative situation. It can be assumed by analogy, by experience, or inferred from social roles. It is natural to find it out by asking questions.

How can artificial relevance be created? It can be the introduction of mutual concepts, mutual premises, or mutual consequences. It also might be a construction of mutual justification chains or articulated including the principles in a justification chain.

Thus, we have the following algorithm.

- Find or assume the presence of an unarticulated basic principle.
- Create an argument that is relevant to both the found principle and the thesis.
- To form an explicit justification chain for the argument started from the basic principle.
- Enter the argument.

I hope that this method will help ones avoid the collapse of the argumentation caused by the agent‘s denial.

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