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JUSTIFICATION AND ARGUMENTATION

Discussion paper on Lilian Bermejo-Luque's "Argumentation Theory and the Conception of Epistemic Justification", *Studies in Logic, Grammar and Rhetoric*, 16 (29), 2009, 285-303.

Abstract. In her paper "Argumentation theory and the conception of epistemic justification", Lilian Bermejo-Luque presents a critique of deductivism in argumentation theory, as well as her own concept of epistemic justification inspired by the views of Stephen Toulmin. Reading this paper induced me to reflect on the mutual relation between the notions of justification and argumentation. In this work I would like to first draw the reader's attention to a few issues which seem debatable to me, or which I find worth presenting from a slightly different point of view than that of Lilian Bermejo-Luque. I agree that deductivism is not suitable for a general theory of evaluation of arguments although the critique of deductivism presented by the Author appears as not fully adequate to me. Then I proceed to presenting my doubts about the "conception of justification as a proper outcome of good argumentation" presented in the work. I need to emphasise that due to a broad range of topics addressed by me in this short paper, the description of some of them will be neither fully precise nor exhaustive.

Keywords: argumentation, deductivism, justification, reasoning, argument evaluation

1. Deductivism – why is it wrong?

1.1. First, I would like to present several comments on deduction and deductivism and on its relations with argumentation and justification. I agree that deductivism is not suitable for evaluating arguments, although it seems to me that L. Bermejo-Luque somewhat inadequately presents the problems that deductivism struggles with. According to the Author, applying the rules of deductivism to arguments, the premises of which do not entail their conclusions, unavoidably leads to the error of argumentative circularity, which I cannot agree with. First, a few words on the logic of deduction and its characteristics. The central notion in the logic of deduction is the notion of entailment. Entailment is a relation between propositions which

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is constructed in such a way that true propositions may entail only true propositions. The basis for the relation of entailment is the very meaning of the words used (so-called logical constants). Speaking less strictly, this means that if propositions A and B entail proposition C, then if anyone thought that both A and B were true but C was false, they would be revealing the fact of not having understood the meaning of one of the logical constants used in propositions A and B or C. Such entailment is called a *logical* one. The relation of logical entailment is broadly used in mathematics, where it constitutes the foundation of theorem justification. In order to justify theorem T, i.e. to show that it is true, we would have to indicate true theorems U, W, ... that T follows from. Of course, the first question that arises is: how do we know that those theorems U, W... that we invoke in justifying T are true? They obviously require justification, but once we justify propositions U, W... by use of other propositions X, Y... then another question arises: how do we know that X, Y... are true? In other words, we are facing the problem of *regressus ad infinitum*. In mathematics this does not cause any difficulties. There is a certain category of "prime" theorems, called axioms, which are accepted as true by force of an arbitrary decision. Any proper justification of a theorem ends with them. If any of the theorems U, W, ... is not an axiom, then it should be entailed from axioms or theorems entailed from axioms, etc. It is enough to say that in mathematics a true (justified) theorem is one which is entailed from axioms (in particular, every theorem which is an axiom is entailed from axioms under the "from p infer p" rule of logic). The question of motives for accepting a given theorem as an axiom and the problem of the notion of truth in mathematics would require being discussed as a separate topic; however, it is not necessary for our purposes. Mathematics for philosophers used to be an unattainable model of a kingdom of absolute certainty and order. It is hard to be surprised by this fascination. In mathematics a once-justified theorem remains justified forever – it will never be revoked, it does not require being further specified or complemented. Justification of a theorem is never partial, it is always complete, and it consists in demonstrating the truthfulness of a theorem, and not e.g. its high level of probability. Besides, due to applying formal methods, the question whether a given theorem has been properly proven or not can be solved in an unambiguous and objective way, independent of any subjective feelings and inclinations of mathematicians.

1.2. The enumerated properties of the mathematical method strongly tempt us to apply it outside mathematics, i.e. to base the process of justification on the relations of entailment in other fields as well – to determine that it defines the only proper justification. Such an approach, known as deductivism, in general terms determines that the only way of justifying a theorem is to demonstrate that it is entailed from true theorems.[1] L. Bermejo-Luque criticises deductivism in a way which, in my opinion, is only partly correct. I shall start from saying that I agree with the Author's statement that deductivism cannot handle the justification of general theorems, such as: "Every raven is black". The problem – as the Author aptly indicates – is that even though it seems that this theorem is supported by the premise: "All the ravens observed so far were black", it is not entailed from it. In order to obtain the entailment that is recommended by deductivism, an argument should be complemented with some premise. If, however, we add such a premise, e.g. "If each observed raven is black then every raven is black", then an argument reconstructed in such a way will, according to the Author, become a circular argument. If I understand the Author's thinking correctly, argument circularity in this case is based on the fact that the addition of the mentioned premise was motivated only by the desire to achieve entailment. And actually, if an essential premise for an argument was guessed on the basis of such reasoning there is no doubt we are dealing with circularity. However, things are different if our set of beliefs included – before considering the argument – some propositions which, together with premises specified in the argument, allow for deductive inference. It is easy to imagine that somebody had already thought (correctly or incorrectly) that if each observed raven was black, then every raven was black (e.g. the person might think that birds of the same species always have the same colouring).[2] In such a case the premise for an argument would provide grounds to carry out deductive reasoning without ending up with the error of circularity. *Some* error might occur here, but it would not be the error of *circulum in probando*.

In my opinion the raven example and similar examples reveal the defect of deductivism, namely the fact that we are very often ready to accept general propositions, such as: "every raven is black", even though we do not know any set of true propositions that they are entailed from. This shows that there are correct methods of justification which are beyond the reach of the method indicated by deductivism.

1.3. Other examples of circularity provided by the Author raise even more doubts. We cannot, for instance, consider the following argument: "it's raining, therefore you should take your umbrella" (p. 287), used in a regular context, to be a circular argument. If there are such propositions in the set of beliefs of the argument recipient as e.g. "if you intend to go for a walk and it is raining, then you should take an umbrella" and "you intend to go for a walk", then after hearing the above mentioned argument the person will carry out appropriate deductive reasoning leading to the argument's conclusion. I would like to note that I am not trying to solve the question of the status of the indicated assertions used in the reasoning, which are not the premises of the original argument. But are these the components of that argument, e.g. its "hidden premises"? Answering this sort of question is part of the theory of argumentation. However, in my opinion, no matter how this theory solves the problem, one thing is certain: lack of entailment between premises of an argument and its conclusion does not yet mean that deductivism cannot be successfully applied in its evaluation without the danger of ending up with *circulus in probando*. The Author most apparently refers to deductivism as a concept according to which a good argument is an argument whose premises entail a conclusion. Meanwhile, this does not – in my opinion – constitute the essence of deductivism nor the condition *sine qua non* for its use. In the opinion of Trudy Govier[3] which I agree with, there is no such thing as a deductive argument. There is, however, a deductive standard of argument evaluation – a standard, we should add, which sometimes gives good results, but sometimes bad results.[4] I would also like to note that in mathematical works, i.e. in the kingdom of deductivism, we very rarely come across arguments the conclusion of which is entailed from the quoted premises. A mathematician e.g. reasons as follows: "$x + 2 < 3$, so $x < 1$". There is no logical entailment between the premise and inference of this argument,[5] but still we cannot accuse it of being circular.

2. How can arguments justify?

2.1. Before I proceed to discussing the concept of justification as presented by L. Bermejo-Luque I would like to present a few general remarks to the notion of justification and its relations with the notion of argumentation. If we are talking of justification of some proposition C in the course of argumentation, we are thinking of indicating (*explicite* or *implicite*) other propositions that were previously accepted, in the context of which proposition C deserves to be accepted. I am purposely using the phrase "C deserves to be accepted" instead of "C is true". If justification always consisted in proving the *truthfulness* of a proposition, we would very rarely be able to justify our views. Argumentation outside mathematics usually concerns empirical assertions which can never be viewed as simply true. Even if we feel psychological certainty about some proposition (e.g. "She is my relative"), we can always be found to be mistaken. Every time we wish to justify an empirical proposition we must carry out reasoning referring to other empirical propositions, e.g. scientific theories, which may, in some time, turn out to be false.[6] Another fundamental problem in empirical disciplines is the lack of an equivalent for mathematical axioms, and as a result – the inevitability of *regressus ad infinitum.* Thus, we cannot discursively prove the truthfulness of any empirical proposition, though we may acknowledge that it deserves our acceptance due to the fact that earlier, for some reason, we had accepted another proposition. A fundamental problem can be expressed as the following question: why should acceptance of propositions, say A and B, make the acceptance of C something rational? Deductivism does not provide a good solution in the field of empirical propositions. Even if C logically follows from previously accepted propositions A and B, it does not at all mean that C deserves to be accepted. The rules of logic state: if A and B are *true*, then C also has to be *true.* We should not, however, confuse this principle with a completely different rule, namely: "if A and B are accepted, then C should also be accepted", which is not a generally valid principle. In order to find out how it functions, let us consider what would happen if e.g. we had previously accepted "not-C"? Or if C contradicts A[7]? Then, perhaps, we would rather withdraw our acceptance of A or B than accept C. Henry Kyburg's famous lottery paradox[8] shows that propositions of very high probability may entail a logically false proposition. Without going deeper into deductivism[9] we can note that its low utility is also due to the fact that one of the rarest cases is when a proposition that we are about to justify is entailed from previously accepted propositions. Most often we justify propositions by means of propositions which do not informatively include the proposition that is being justified, which means that we should allow for a situation where the justifying propositions are true while the justified one is not. There is, however, no clear, general theory that could explain the essence of the justification relation between propositions. Partial solutions are provided by inductive logic, but in practice its application requires too many conditions and primary assumptions to be met. The only branch of inductive logic that has practical application is statistical induction which concerns inferences related with population based on a sample. In practice, evaluation of justification is, to a greater or lesser extent, *intuitive.* This means that we cannot clearly define nor specify particular steps in a reasoning that binds justifying propositions with the justified one, nor rules that would justify the correctness of those steps (this does not only concern simple people, but also philosophers or scientists). Regardless of which, reasoning in empirical disciplines is defeasible: it can always turn out that some previously accepted proposition that we recollect contradicts the correctness of the inference. If we follow this path of thinking we will finally arrive at a conclusion that all our knowledge about the world is always potentially, indirectly or directly engaged in the process of evaluating the correctness of a justification.

2.2. The above remarks concern problems related with justification. But what is the role of argumentation? In my opinion this is a phenomenon of a different level, namely the level of communication. Argumentation is something that a sender uses in order to provoke reasoning in the receiver that would lead to justifying some claim. Arguments do not justify, but they show – in a more or less precise way – the course of thinking that a receiver ought to follow in order to find that a given claim deserves to be included in their set of beliefs. In order to construct an argument for C, its sender has to previously know the justification for C, or at least know what is going to be accepted by the argument's receiver as a correct justification for C. The argument sender may not be able to provoke the desired reasoning in the receiver. A special example of such a situation is when in our argumentation we invoke propositions not accepted by the receiver. It may also happen that acceptance of C might introduce a contradiction to the receiver's set of beliefs, e.g. not-C has been previously accepted. There are many other reasons for an argument not to provoke the desired reasoning in a receiver.

Thus when we speak of a good argument we must always take into account the receiver's set of beliefs. There is no argument that can be considered good in absolute terms. An argument is either good or bad only in relation to the receiver's set of beliefs. Obviously, a good argument always points to correct justification. But what does good justification consist in? This question should be answered by the theory of justification, which differs from the theory of argumentation, though it is, of course, strictly related with the latter.

2.3. L. Bermejo-Luque rightly describes an argument as something which is somehow related with the act of communication with its sender and receiver. For the Author argumentation is "a communicative activity, an attempt at showing a target claim to be semantically correct" (p. 300). Such phrasing does not raise my objections, however, instead of "semantically correct" I would use a clearer expression, e.g. "acceptable" or "credible". The Author presents a concept according to which justification is the output of good argumentation, and in addition "it makes all the difference which conception of argumentation we endorse" (p. 300).

Further she writes: "By arguing, we put forward a claim – i.e. we present a certain content with a certain degree of assertive force – and by arguing well, we justify that claim" (p. 300). Thus, in order to justify a claim we need to provide a good argument for it. "[...J]ustifying is [...] a certain sort of successful communicative activity" (p. 300). Correctness of justification, as I understand it, depends on the quality of the arguments used. A good argument results in good justification – what remains is only to explain the difference between a good argument and a bad one. On page 298 the Author gives the following definition of validity: an argument is valid if its warrant is semantically correct. This means that the presented concept of justification points to the semantic correctness of warrants of the arguments used as a criterion of the justification's correctness. We need to say that this criterion is rather vague. If we return for a moment to the deductivist concept of justification, we will see that with all its flaws it has one great merit: it explicitly indicates a procedure which allows effectively ascertaining whether a justification is good or bad. This procedure consists in establishing whether logical entailment is present between the premises and conclusion. But how shall we verify if a warrant of a given argument is semantically correct? According to what the Author says in her work, it seems that establishing this is merely intuitive. In my opinion the concept of justification should first of all indicate, as much as possible, a method for differentiating a good justification from a bad one which would be free from intuitive evaluation, objective, and would lead to unambiguous settlement of the problem. In my opinion it is the touchstone of this concept's value.

2.4. To illustrate what I am trying to say I will use an example of an argument provided by the Author on page 299: "every observed raven is black, therefore likely every raven is black". The argument is presented by the Author as an example of a valid argument, which is why if I prove that it does not deserve to be treated as such, it will suggest that there are some weak points in the discussed concept of justification. I think that this argument should not be considered to be a good argument because its value only depends on the receiver's set of beliefs. I shall begin with a different example of an argument, which might seem a bit artificial, but which allows us to conduct a strict analysis. Let us imagine an urn which contains 100 balls. Each ball may be either black or white. We draw 99 balls from the urn at random. All of the balls turn out to be black. Can we say, that it is likely that the last ball remaining in the urn is black? Well, calculations based on the probability calculus show that the probability of the last ball being black cannot be determined on the basis of the presented data.[10] In order to calculate this probability it is necessary to know the *a priori* probability of the last ball in the urn being black (or the *a priori* probability of various possible sets of balls in the urn). It is a highly non-intuitive result: most people are prone to think that the probability of the last ball being black is (a) high, (b) can be calculated on the basis of the fact that 99 balls drawn from the urn were black. I think that this proves that the argument: "each of the 99 drawn balls is black, therefore likely the last ball is also black" is not valid in any reasonable sense of this word. Similar remarks may be referred to the raven example. We cannot justify the thesis that likely all ravens are black by the mere fact that all ravens encountered so far have been black. If, for instance, a scientist conducting DNA tests on ravens concludes that one raven in a million is blue, he will give to the assertion "all ravens are black" the *a priori* probability equal to zero. Information of all the so far encountered ravens being black will not affect his opinion on the properties of the set of all the ravens. If we arrive at a conclusion that all ravens are black, we do not only take into account the fact that all the so far observed ravens were black, but we allow for many various, additional pieces of information: the number of observed ravens, the circumstances of their observation, the intensity of our efforts to discover any non-black raven, various biological data. The issue would require deeper discussion – e.g. considering the raven problem from the point of view of the so-called inference to the best explanation, but in this paper I have only provided the most straightforward remarks.

3. Conclusion

In the end I would like to emphasise my intention of presenting my point of view in the most clear and explicit way. I aimed at showing the essence of differences between the Author's position and that of mine, especially with respect to the way of understanding justification and its relationship to argumentation. Certainly these problems may be approached using a variety of methods taken from very different areas of research. I found it useful to plainly sketch out my own position. I did so mainly to make my point of view open to further criticism. Critique and debate are indispensable ingredients of all scientific endeavors.

REFERENCES

Govier, T. (1987). *Problems in Argument Analysis and Evaluation.* Dordrecht: Foris Publications.

Govier, T. (1999). What is a Good Argument? In T. Govier, *The Philosophy of Argument* (pp. 107–122). Newport News, Virginia: Vale Press.

Govier, T. (2010). *A Practical Study of Argument.* Boston, MA: Wadsworth, Cengage Learning.

Hitchcock, D. (1999). The Thomas-Nolt Dispute: Some Lessons about Induction. *Informal Logic*, 19(2), 201–212.

Kyburg, H. (1961). *Probability and the Logic of Rational Belief.* Middletown: Wesleyan University Press.

Lambert K., & Ulrich W. (1980). *The Nature of Argument.* New York: Macmillan Publishing Co.

NOTES

[1] Cf an excellent discussion on deductivism in (Govier 1999). Deductivism as a standard of argument appraisal is defended in (Lambert et al., 1980). I consider it appropriate to warn the reader that there are several meanings of the word "deductivism". We concentrate here exclusively on deductivism in argument evaluation and are not interested in e.g. Popper's concept of falsification.

[2] The premise under consideration is false (perhaps) but (a) it belongs to the set of beliefs of a given person which is possibly a consistent set of beliefs, and (b) by virtue of its logical form, it guarantees logical entailment to hold.

[3] Cf (Govier, 1987, p. 43)

[4] Because of lack of space I have had to leave out discussion about the relationship between epistemic principles and the rules of deductive logic.

[5] Please, note, that in the inference rule $x + 2 < 3 / x < 1$ there is not a single logical constant, and thus we cannot speak of logical entailment.

[6] Here it is worth mentioning the notes of Trudy Govier on the acceptability of argument premises in (Govier, 2010, pp. 116–147).

[7] Let us assume that we accept proposition $A \rightarrow \sim A$ and we accept proposition A. Both these sentences entail $\sim A$. Should we accept $\sim A$?

[8] (Kyburg, 1961, p. 197)

[9] For the brevity of presentation, I will not consider the details of the role of deduction in mathematics, science, and everyday reasoning.

[10] The calculations are considered elementary; they can be also found e.g. in (Hitchcock 1999).