The Logical Dimension of Argumentation and Its Semantic Appraisal in Bermejo-Luque's *Giving Reasons*

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ABSTRACT: We critically examine Bermejo-Luque's account of the logical dimension of argumentation and its logical or semantic evaluation. Our considerations concern her views on inference claims, validity, logical normativity, warrants, necessity, warrants and the justification of inferences, ontological versus epistemic modal qualifiers, ontological versus epistemic probability, and ontological versus conditional probability.

Keywords: logical dimension of argumentation; logical/semantic evaluation of argumentation; modal qualifiers; necessity; probability; Toulmin; validity; warrants.

RESUMEN: *Examinamos críticamente el análisis que Bermejo-Luque propone de la dimensión lógica de la argumentación y de su evaluación lógica o semántica. Nuestras objeciones ser refieren a sus tesis sobre las afirmaciones inferenciales, la validez, la normatividad lógica, los garantes, los garantes de necesidad y la justificación de las inferencias, los calificadores ontológicos frente a los epistémico-modales, la probabilidad epistémica frente a la ontológica y la probabilidad condicional frente a la ontológica*

Palabras clave: *dimension lógica de la argumentación; evaluación lógica/semántica de la argumentación; calificadores modales; necesidad; probabilidad; Toulmin; validez; garantes.*

Lilian Bermejo-Luque has presented an account of when reasons are good reasons. At the core of the book is her account of arguing, of the contributions of logic, dialectics, and rhetoric, and the factors involved in evaluating argumentation. I shall concentrate primarily on Bermejo-Luque's account of the logical dimension and the role of logical or semantic evaluation. First, we must state her understanding of argumentation and argument.

Bermejo-Luque characterizes "argumentation as a second-order speech-act complex" (2011, 53; all page references below are to this book), a type of communicative activity. Justifying some target-claim is the illocutionary aim of argumentation, while persuading others of the claim's being justified is its perlocutionary aim. Since speech-acts may have both illocutionary and perlocutionary effects, and arguments are supposed to both justify claims and persuade others, Bermejo-Luque sees a speech-act characterization of argumentation as especially apt. Particular argumentations, acts of arguing, consist of adducing and concluding. Adducing includes not only a first-order speech-act of asserting some proposition, but also indicating its functional role as a reason, and similarly for concluding, which indicates that some claim is the target-claim.

Argumentation and argument are distinct. An argument is the representation of the propositional contents of a speech-act of arguing, together with their functional relationship. As a speech-act, argumentation is public. Parallel to these public acts are private, mental acts of reasoning. Arguments may represent the content of the elements of either acts of arguing or reasonings. For acts of arguing, besides a target-claim and the reason for this target claim, "the implicit inference-claim that turns a mere claim

into a reason for another" (p. 56) constitutes an element in the act. Each of these elements has a "corresponding type and degree of pragmatic force,… made explicit by means of certain qualifiers" (p. 56).

Bermejo-Luque's understanding of the inference claim some may find quite controversial. Its propositional content is an indicative conditional whose antecedent is the propositional content of the reason and whose consequent is the propositional content of the target-claim. One might rather expect the content not to be a simple indicative conditional, but a generalized conditional, either universal or *ceteris paribus*, indeed a generalization supporting a subjunctive conditional. By contrast, Bermejo-Luque holds that the propositional content is properly expressed as a truth-functional conditional, true if its antecedent is false or its consequent true. Such truth-conditions would not seem sufficient to express the expected connection between the propositional contents of the reason and the inference-target, or the corresponding premise and conclusion. To adduce a reason for a target-claim one asserts not just that if the reason is true, so is the target claim, but that the target-claim follows in some sense from the reason. There is some necessary (not necessarily logical) connection between reason and target-claim. Even with purely deductive logic, the truth of a material conditional is not sufficient to show a claim of entailment. Likewise, *post hoc ergo propter hoc* is a fallacy. Consider this example (which is not original). Little Johnny walks up to the automatic door of a grocery store. He says "abacadabra" and the door opens. He then says that "If I say 'abacadabra,' then the door will open." He means that if he *were* to say the magic word, the door *would* open. He means his incantation has causal efficacy. His conditional asserts more than merely that it is not the case that the antecedent is true and the consequent false.

Bermejo-Luque's reply that the pragmatic conditions of asserting a reason for a target claim, that the reason is asserted and thus not known to be false by the speaker and that one does not know whether the target claim is true when being presented with such a reason (if one needs to be persuaded) does not rule out our counterexample. If Johnny argues that the door will open because he's going to say "abacadabra," and he intends to say the magic word, he certainly doesn't know that the antecedent is false and neither he nor his interlocutors know by another means (presumably sense perception) that the door will open right after he says "abacadabra."At the time of utterance, it is a future event. We shall see later how this problem with Bermejo-Luque's construal of conditionals corresponding to inference claims affects her account of the semantic appraisal of arguments and argumentation.

Turning to discuss the logical dimension of argumentation, Bermejo-Luque begins by stressing that logical normativity is only part of argumentative normativity and then clarifies that by "logic" she means not formal deductive logic but logic as characterized by Toulmin in (1958). I find her argument for this view problematic. She characterizes formal validity as having a valid logical form, which she equates with there being "an acceptable formal system in which it is valid" (p. 88). This characterization seems to confuse syntax and semantics. The concept of a formal system suggests a system for constructing formal derivations by observing syntactic inference rules. Validity can be characterized semantically through the familiar intuitive definition that an

argument is valid just in case it is impossible for its premises to be true together with its conclusion's being false.[1] Impossibility can then be explicated semantically, by analyzing the form of the component premises and conclusion at some level – sentential and predicate are paradigms – together with a statement of the truth-conditions for the logical constants encountered at this level. The deeper the analysis of form, the more adequate the explication. None of this involves inference rules. The acceptability of a formal system of rules is ultimately subject to verification through soundness and completeness results. To be sure, there are systems of non-classical logic such as intuitionism. However, if one contrasts the basic semantic values of truth and falsity for classical logic with proof values for intuitionist logic, one can find plausible Quine's judgment that change of logic means change of subject (see 1970, 80-81). In this light, Bermejo-Luque's remark that "given the existence of alternative formal logics ... such normativity regarding what we can or cannot infer seems far from obvious" (p. 88), and her reference to intuitionistic logic are unfortunate.

This fact has distinct implications for evaluating the very next point that she makes: "In my view, the only way to avoid this problem is to think of logical normativity as a matter of the constitutive pragmatic conditions of the type of acts on which inferences supervene, i.e. the acts of arguing and reasoning" (p. 89). To the contrary, it can be avoided by recognizing that the intuitive semantic characterization of validity captures our intuitions concerning this concept and that this concept can be explicated at various levels of logical form. Bermejo-Luque has put this argument forward, I believe, in part to highlight that we cannot appeal to a formal discipline of Logic to answer in general questions of the normative appraisal of inference. We can agree with her without accepting the argument, since it is a commonplace that many arguments are non-conclusive. A general account then will involve more than formal considerations.

Bermejo-Luque's reference to constitutive pragmatic conditions is important for understanding her overall conception of argument evaluation. She continues by claiming that when we put forward conclusions, we qualify them modally, i.e. "with a certain *force*, namely the epistemic pragmatic force which the modal qualifiers express" (p. 90). This at first sight seems surprising. Do we not, on many occasions, put forward a conclusion as simply being true? In how many of the arguments we encounter can we find explicit modal qualifiers? Our reservations can be allayed somewhat when we remember that Bermejo-Luque counts "it is true that" as a modal qualifier (see p. 53). It can also be allayed when one remembers that in putting forward a conclusion, one lends one's authority to it, at least to some extent, which can be indicated by a modal qualifier. Field dependent criteria, as Toulmin uses "field," spell out the criteria for believing a conclusion as modally qualified. Bermejo-Luque now makes a point important for the development of her account of logical normativity. Any statement can be modally qualified, including the material conditional expressing the inference-claim of an act of argument and the statement of the data constituting its reason. That is, war-

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[1] As Hitchcock points out, this definition can be refined to rule out paradoxes of relevance. See (1998, 24-27).

rant and data can be modally qualified. The modal qualifier of the warrant entitles us "to draw our conclusion 'necessarily,' 'probably,' 'tentatively,' 'possibly,' etc." (p. 91). Whether a qualifier is attributed correctly depends on whether its force expresses the force with which we should believe the statement it qualifies. Hence, "the validity of an argument would be a matter of the correctness of its warrant, and a good argument would be an argument whose conclusion has been properly qualified, given the qualifiers that actually correspond to its data and warrant" (p. 91). By putting forward this characterization of validity and argument goodness, Bermejo-Luque incurs a very significant burden of explication, if not burden of proof. We shall see how she discharges this burden in connection with examining her account of semantic argument appraisal.

Bermejo-Luque emphasizes that the concept of validity she is developing is non-formal. A formalist might repond to her as he responded to Toulmin, that an apparently non-formally valid argument was in fact an enthymeme. When the unstated premise is made explicit, the argument is seen as valid by virtue of its form. So a formal theory of validity is sufficient after all. In countering this objection, Bermejo-Luque makes an excellent point: Representing an argument with an apparently non-formal inference rule as an enthymeme, the added premise involving a conditional, may very well misrepresent the structure of the argument as presented. Rather one is constructing a new argument with its own distinct warrant. That the formal approach depends on this misrepresentation is the main reason to abandon it (p. 97).

However, Bermejo-Luque's next point is very questionable. She considers the argument "'the position of the Sun, Moon, Earth are…; therefore, there will *necessarily* be a partial eclipse of the Moon'" (p. 97). She claims that this argument is valid and conclusive, without its "completion" by adding a premise incorporating 'a good deal of astronomical theory'" (p. 97). Rather "the argument is conclusive and valid because the claim that its warrant represents is not only true but *necessary*, and that good deal of astronomical theory only serves to let us know that the argument is indeed valid" (p. 97, italics added). This is problematic. First, what is the sense of necessity involved – certainly not logical. The laws of astronomy are not logically true, although we could admit their having a natural necessity, if the evidence for them is appropriately large and varied.[2] Hence they cannot render the warrant logically necessary. It would strike me as far more accurate to say that corresponding to the warrant as an inference rule is a universally generalized causally necessary conditional. That conditional is supported, i.e. backed, by astronomical theory and ultimately by the observational evidence on which that theory is backed. However, this differs from Bermejo-Luque's analysis on two points. Not only is this conditional not indicative, it is general. We have already discussed the first difference. We shall consider the second shortly.

Bermejo-Luque follows this remark with a discussion I find even more problematic. She says "the content of the claim that the warrant represents is that if the reason is correct, then the conclusion is correct; therefore, if this claim is correct in turn, if the reason is correct, then the conclusion *has to be* correct" (p. 129, italics added). In gen-

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[2] This statement presupposes Cohen's analysis of natural necessity as maximum inductive reliability. See (1977, 230) and the theory of inductive reliability developed in (1977).

eral, as long as the reason is correct, the modal qualifier of the warrant can be attributed to the conclusion. On the face of it, this is just plain wrong. Given her distinction of ontological versus epistemic modal qualifiers developed in the last chapter of the book, Bermejo-Luque is not making such a bold statement. But let us see just why this distinction is problematic. That a conclusion follows necessarily from the premises (that the warrant of the argument is logically necessary) does not mean that the conclusion of the argument is logically necessary. From the fact that "It is logically necessary that if Socrates is human and all humans are mortal, then Socrates is mortal," we cannot infer that Socrates' being mortal is a logically necessary truth. Such a view, as the mediaevals would tell us, confuses the necessity of the consequence with the necessity of the consequent. Similar remarks might be made for probability as a modal qualifier.

Turning now to warrants, Bermejo-Luque makes a good point that on her view, warrants can be easily distinguished from the premises of arguments. This is important, because Toulmin's discussion of warrants in (1958) is in desperate need of disambiguation. He has characterized warrants both as statements and as inference rules. But inference rules are not statements. Rather they are expressions of the sort

> From   a statement of the form φ
>
> To infer   a statement of the form ψ,

where φ, ψ contain variables or schematic letters of some sort which, when replaced by concrete expressions, result in concrete declarative sentences.[3] That is, inference rules authorize a step from reason to conclusion. As such, steps from reason to conclusion instance these licences, but do not include the licence as a proper part. Hence, they are implicit not explicit in arguments. By analyzing a speech act of adducing – putting forward a claim *as* a reason for some further claim – as requiring attributing to the speaker an implicit inference-claim making the explicitly stated reason a reason for that claim, inference-claims are clearly seen to be distinct from the claims they constitute as reasons. However, as our remarks immediately above identifying warrants as inference rules show, we do not need Bermejo-Luque's proposal distinguishing acts of arguing involving inference-claims from the arguments instancing warrants which represent them to make the distinction. We have made it on the syntactic level by distinguishing statements from inference licences.

Taking this viewpoint, we reject Bermejo-Luque's critique of Hitchcock's claim that warrants justify inferences, by which he means a logico-epistemic justification. We justify a step in an argument by citing the warrant it instances. Whether the step is *really* justified is a matter of the reliability of the warrant, which is a matter of its backing. But in citing a warrant, we are not arguing from the warrant to an inference claim, as Bermejo-Luque alleges Hitchcock's view involves. Such an argument would have its own inference claim, which in turn would need to be justified by a warrant, which justification involves a further argument, which… We have started an infinite regress.

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[3] We need not consider here the limiting case where φ, ψ contain no variables or schematic letters.

There is no argument from warrant to inference claim. Unless the warrant is challenged, citing the warrant *is* giving the justification fully.

Bermejo-Luque holds that "the idea that warrants are justifications for the inference is a hold-over from deductivism" (p. 111). She argues that within deductivism, justifying a claim involves showing "that such claim or belief will always be correct if the reason is correct, no matter how the world happens to be" (p. 111). This may be true of deductivism, but the requirement that inferences be justified does not entail this view. It is sufficient to point out that besides formal inference rules are material inference rules, as Toulmin does in (1958). Different fields may back these warrants and thus constitute them justified in different ways. Backing such a warrant "from below" by citing a sufficiently large and appropriately varied body of instances is a paradigm case. Such backing may certify that the warrant is reliable *ceteris paribus*, but falls short of necessity. But unless rebutted, the warrant is justified and it is appropriate to use it to justify inferences.

As our characterization of φ, ψ as containing variables or schematic letters indicates, warrants are general. Hitchcock has argued–persuasively to my mind–for the generality of warrants or inference licences (see in particular 1985 and 1998). For Bermejo-Luque, inference-claims or inference motivations are not general. She argues "general rules are not 'bridges' between reasons and target-claims or indirect judgments" (p. 108). She gives two reasons for this opinion. First, given a simple argument,[4] we may frame a plurality of generalizations connecting the premise to the conclusion. I expect that the point is that given the argument, we cannot identify which general rule is *the* warrant. Hitchcock has dealt with this issue in (1985). For a premise to be relevant to a conclusion, there must be at least one content expression shared by both – there could be more. To be sure, one can formulate a plurality of connecting generalizations of different degrees of generality. But some may be distinctly implausible and others may be weaker than the maximally general plausible generalization. Implausibility considerations act as a filter typically to identify a unique generalization corresponding to the warrant of the argument.

Bermejo-Luque's second reason against saying that general rules are not bridges claims that "every general rule can have conditions of rebuttal applicable to the particular case stated by the argument" (p. 108). First of all, this is not true. A general rule can be conclusive (formal rules are the paradigm case) and thus not open to rebuttal. Secondly, generality does not imply non-defeasibility. A general rule can be defeasible and still licence a move from reason to conclusion. In this case, we are entitled to infer the conclusion only *ceteris paribus* or regard the reason as a *prima facie* reason for the conclusion. I would add further that unless the inference-claim or inference-motivation focused on some general (albeit possibly defeasible) connection between reason and claim, it would be hard to see how it could function as an inference-claim. Put another way, to answer Toulmin's warrant-generating question – How do you get there? – one must indicate some general connection between data and claim. Although Toulmin allows "If D, then C" to frame the warrant, he indicates that a more

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[4] Bermejo-Luque cites Scriven's example "She's red-haired, so she's probably quick-tempered."

candid way of formulating it is to say "Data *such as* D entitle one to draw conclusions, or make claims *such as* C" (1958, 98; italics added). Although egregiously vague, the "such as" indicates generality here. Should someone ask why D is a reason for C, to answer "If D, then C" would provide no explanation. But to indicate that within D there is some feature that was generally connected to some feature within C would show the interlocutor at least why the speaker thought D was a reason for C. Hence, Bermejo-Luque has not established her account of warrants as truth-functional conditionals.

Having identified reasons, claims, warrants, and modal qualifiers as elements in arguments expressing argumentation and discussing how warrants should be understood, Bermejo-Luque presents her account of how the semantic appraisal of argumentation proceeds with respect to these elements. She sees reasons, conclusions, and warrants of arguments as all being modally qualified and evaluation as determining whether they have been properly qualified. This account, then presupposes an extension of Toulmin's notion of a modal qualifier. In his model, only the claim is qualified. She extends the notion further, distinguishing ontological and epistemic modal qualifiers, "which correspond respectively to the semantic and argumentative value with which we can put forward a claim" (p. 170). She believes that the distinction is expressed in two forms of modal words. Should we say "*p* is true," "*p* is necessary," "*p* is possible," "*p* is probable," we say something about *p*'s "representativeness respecting the world" (p. 171). Such adjectival expressions are ontological modal qualifiers. By contrast, to say "truly that *p*," "necessarily that *p*," "possibly that *p*," "probably that *p*," is to say "something about the status of this claim as knowledge, about the confidence we should put in this claim or our entitlement to it" (p. 171). The adverbial expressions are epistemic modal qualifiers. The qualifier of the target claim of an argumentation is epistemic, while the qualifiers of the reason and the inference-claim are ontological. Furthermore, "the correctness of the epistemic qualifier depends on the ontological qualifiers of the reason and the inference claim" (p. 171).

Bermejo-Luque indicates that "representativeness respecting the world" can be explicated through relative frequencies, which thus express facts about the world (although this need not be the only way representativeness can be explicated). She says "if the relative frequency of an event of type A in circumstances C is 0.9, then we may say that a claim that in these circumstances of type C this event of type A is highly probable is correct" (p. 171).

I find this distinction in terms of grammatical form unsatisfactory. Consider a locution of the form "it is necessarily the case that A" (alethic necessity). On a possible worlds semantics, such a statement will be true just in case A is true in all possible worlds. But this is an ontological criterion, not making reference to any body of knowledge. We *might* better express this distinction through the familiar distinction between categorical and conditional probability. To assert

$$Pr(A) = 0.6$$

is to make an unconditional statement about A's holding, e.g.

The probability that the incumbent will be re-elected is 0.6.

By contrast, asserting

$$Pr(A/C) = 0.6$$

does not assert that the probability of A is 0.6 outright but only conditional upon C's holding. It is making a claim about the evidential value of C with respect to A.

> The probability that the incumbent will be re-elected, given that the economy is growing at a healthy rate, is 0.6.

Since a categorical probability assertion indicates something about a statement outright, its truth-conditions, on an objective interpretation of probability, depend upon something about the world, and this could rightly be described as asserting an ontological probability. By contrast, a conditional probability asserts something about the evidential value of C for A, and could rightly be described as asserting an epistemic probability.

However, this understanding of epistemic probability which we are suggesting will prove very problematic, given how Bermejo-Luque wishes to relate ontological and epistemic probability in her account of semantic appraisal. The point is precisely this: Bermejo-Luque sees epistemic probability as qualifying the conclusion and this is central to her account of semantic appraisal. On a conditional probability construal, epistemic probability qualifies the *relation* between premise and conclusion. It describes the strength of evidence, not the strength of the conclusion, if the evidence holds.

Bermejo-Luque considers several arguments to illustrate how evaluation should proceed. Consider the following:

> Premise: "it is going to snow a lot" is probable (to a degree x)
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> Warrant: "if it is probable (to a degree x) that it's going to snow a lot, then it is probable (to a degree y) that the flight will be cancelled" is probable (to a degree z)
>
> Conclusion: probably (to a degree z) "it is probable (to a degree y) that the flight will be cancelled"

(p. 176). She continues "for an argument to be valid its conclusion has to be qualified with an epistemic qualifier which corresponds to the ontological qualifier that correctly qualifies its warrant" (p. 176). This example readily illustrates this point. The adjectival qualifier of the warrant is simply converted to its adverbial counterpart to qualify the conclusion. So determining validity is a matter of determining the correctness of that ontological qualifier. Notice that the warrant's qualifier is categorical, not conditional. But since the warrant relates the premise to the conclusion, should not the warrant's modal qualifier indicate the evidential value of the premise for the conclusion, i.e. should not the warrant's qualifier be conditional and so epistemic? But claiming the warrant is probable to a degree z apparently asserts the ontological and presumably categorical probability of a material conditional.[5]

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[5] This could be a further reason for insisting that the warrant of an argument be a material conditional.

However, there is evidence that Bermejo-Luque assumes the probability of the warrant is conditional. She says, when "the inference-claim 'if John's car is outside and he's not in the living room, then he is in his room' seems to us only probable – in the ontological sense we are assuming its degree of (ontological) probability could be determined, for example, as the relative frequency of John's being in his room when his car is outside and he is not in the living-room" (p. 172). That is, at least in cases of warrants, ontological probabilities are conditional probabilities. But this is wrong. In general, $\Pr(P \supset Q) \neq \Pr(Q/P)$, as Bermejo-Luque seems to be assuming here. Since 'P ⊃ Q' is logically equivalent to '~P ∨ Q', we have $\Pr(P \supset Q) = \Pr(\sim P \vee Q)$. Suppose $\Pr(\sim P) = .9$, $\Pr(Q) = .4$, and $\Pr(\sim P \,\&\, Q) = .35$. Then $\Pr(\sim P \vee Q) = [\Pr(\sim P) + \Pr(Q)] - \Pr(\sim P \,\&\, Q) = (.9 + .4) - .35 = .95$. But also $\Pr(P \,\&\, Q) = .05$. Given the definition of conditional probability,

$$\Pr(Q \,/\, P) = \frac{\Pr(P \,\&\, Q)}{\Pr(P)} = \frac{.05}{.1} = .5$$

In light of these considerations, how can we go from the probability of the consequent given the antecedent, determined by observing some relative frequency, to the probability of the material conditional? But why should we not, then, determine directly the conditional probability of the conclusion given the premise and take that as the epistemic probability of both the warrant and the conclusion? Why make the ontological/epistemic qualifier distinction? Indeed, why speak of the probability of the warrant at all? Why not simply, on the basis of some objective procedure, determine the conditional probability of the conclusion given the reason and ascribe it to the conclusion as an epistemic probability directly and not be concerned to ascribe modal qualifiers to either warrant or data? What more work does the distinction do than indicate that the epistemic probability is objectively determined?

Bermejo-Luque makes some remarks that may answer our question. Ontological qualifiers qualify claims (i.e. statements in general) while epistemic qualifiers qualify acts of concluding (p. 173). "Acts of concluding are attempts at saying what our reasons entitle us to say about how the world is" (p. 173). Hence, the epistemic qualifier "necessarily" qualifying a conclusion indicates that the claim follows necessarily from the reasons and not that the claim itself is necessary, and similarly for the qualifier "probably". To the extent that a modal qualifier applies to the conclusion itself, it qualifies its pragmatic force. Still, seeing the qualifier attaching to the conclusion is highly misleading, since it suggests that the conclusion itself is categorically necessary or probable. I believe that in a diagrammatic representation of an argument's structure, the modal qualifier should attach not to the conclusion, but to the arrow indicating the claim of support from premises to conclusion. Toulmin's method of representing qualifiers as modifying the conclusion leads to the sorts of problems which I have just been descrying.

Toulmin, however, was motivated by an insight worth preserving. Parallel to the force/criterion distinction for evaluative expressions is a force/criterion distinction for modal qualifiers. 'Force' is a pragmatic concept indicating the level of commitment with which we put forward a claim. Toulmin also recognizes that being justified in as-

cribing 'probably' to a conclusion depends on the argument strength, the weight of the evidence one has for that claim. In this connection, Toulmin makes an important assertion. "Our probability terms come to serve ... not only to qualify assertions, promises, and evaluations themselves, but also as an indication of the strength of the backing[6] [reasons] which we have for the assertion, evaluation, or whatever" (1958, p. 90). Toulmin does not seem to realize that this indication gives modal qualifiers a semantic/literal meaning besides their pragmatic/emotive force. It is by virtue of this literal meaning that modal qualifiers make a claim about the strength of support premises give for their conclusions. Modal qualifiers are thus tricky. Their literal meaning qualifies the claim that the premises support the conclusion. Their pragmatic meaning qualifies the level of commitment by which one puts forward the claim. Logical or semantic appraisal however concerns the literal meaning. Seeing the qualifier as attaching to the conclusion of an argument only confuses the issues when appraising an argument from the semantic viewpoint.

From this viewpoint, we need a way to appraise the extent of the ground adequacy of premises for conclusion and on that basis determine whether the literal meaning of the qualifier correctly describes that strength. In short, we need a theory of epistemic strength. For literal claims of conclusive strength, the classical theory of logical entailment is ready at hand. (But see footnote 1.) For literal claims of defeasible strength, a theory of epistemic probability needs to be developed. Bermejo-Luque has in effect suggested a frequency interpretation theory. This will not do as we have argued at length in (2009), and the development of a full theory of epistemic probability remains an open question. Given a proper answer, Bermejo-Luque can then address how pragmatic value depends on semantic value.

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[6] "Backing" is not to be taken here in the technical sense Toulmin later gives to it in (1958).

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