

On a Consequence in a Broad Sense

DANILO ŠUSTER

University of Maribor, Maribor, Slovenia

Cogency is the central normative concept of informal logic. But it is a loose evaluative concept and I argue that a generic notion covering all of the qualities of a well-reasoned argument is the most plausible conception. It is best captured by the standard RSA criterion: in a good argument acceptable (A) and relevant (R) premises provide sufficient (S) grounds for the conclusion. Logical qualities in a broad sense are affected by the epistemic qualities of the premises and “consequence” in a broad sense exhibits an interplay of form and content. There are four proposals for the premise—conclusion relation: (i) no strictly logical connection (“non-logical” consequence); (ii) one type of connection only (deductivism); (iii) a few types of connection (deduction, induction, perhaps conduction and analogical reasoning); (iv) many types of connection (argumentation schemes). Deductivism is a serious option but in its strong version, as the discussion about petitio shows, it fails to establish that arguments which are not cogent are thereby invalid. And weak deductivism, very attractive from the pedagogical point of view, has some deficiencies (implausible hidden premises; preservation of truth, not probability). I argue that the idea of a counterexample, when we regard certain components of the argument as fixed and others as variable, is the best approach to the analysis of the illative core of every-day arguments (the approach of David Hitchcock on material consequence).

Keywords: Informal logic, consequence, begging the question, cogency, deductivism, counterexample.

1.

W. V. O. Quine (1950: vii) opens his *Methods of Logic* with a famous quote: “Logic is an old subject, and since 1879 it has been a great one.”^{1*} The year marks the appearance of Frege’s *Begriffsschrift* and the im-

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pressive development of modern logic ever since. But there is *Logic* (the old subject) and there is the *logical* dimension of (everyday) argumentation and reasoning. Often about hot political issues. Thus in his notorious *Diary* Frege (1924) writes about patriotism:

The question here is not about a judgment in the sense of logic, not about considering something as true, but about one's feelings and inner attitude. Only Feeling [Gemüt] participates, not Reason, and it speaks freely, without having spoken to Reason beforehand for counsel. And yet, at times, it appears that such a participation of Feeling is needed to be able to make sound, rational judgments in political masters. (Mendelsohn 1996: 33)

The following comment is perhaps too harsh: "The man who wanted to set mathematics on surer logical foundations, was content for politics to be based on emotional spasms." (Monk 2017). Still, these are surprising claims for the founder of modern logic which make one wonder how do formal logical theories and the logic of every-day reasoning mesh together. The latter is nowadays the subject of the so-called "informal" logic, characterized rather broadly as a "collection of normative approaches to the study of reasoning in ordinary language that remain closer to the practice of argumentation than formal logic" (van Eemeren 2009: 117). Originally the opposition to formal logic was more clearly stated:

... that branch of logic whose task it is to develop non-formal [i.e., not restricted to logical form] standards, criteria, procedures for the analysis, interpretation, evaluation, critique and construction of argumentation in everyday language. (Blair 2014: 373–374.)

One of the pioneers of the informal logic later adds (Blair 2015: 27): "I would today drop 'standards,' and say 'arguments and argumentation' and 'natural language'". I agree with the ecumenical spirit of the remark—classical deductive standards are no longer excluded by fiat (the original definition was: "Informal logic designates that branch of logic whose task is to develop non-formal standards, criteria, procedures for the analysis, interpretation, evaluation, critique and construction of argumentation in everyday language" (Johnson and Blair 1977: 148). But the working assumption still seems to be that the analysis of arguments and argumentation in natural language has little to do with the areas of formal logic where Frege made his great contributions.

There is another issue where Frege's approach was described as having "deleterious effects both in logic and philosophy" (Dummett 1973: 432–433). According to Frege in logic truth is not merely the goal, but also the object of study. Traditionally, however, the relation of logical consequence ("transitions from sentences to sentences") is the proper subject-matter of logic. "Informal" logicians speak about the premise-conclusion relationship as the "illative" core of argumentation, "This, therefore that," a single integrated set of one or more propositions adduced as grounding or evidence in support of a claim. An illative move or a series of illative moves is made "... from the basis or starting point of the reasoning or argument to the upshot that is inferred or alleged to

follow from that basis. Some call this move an inference, others call it an implication, others call it a premise-conclusion link, and others call it a consequence relation” (Blair 2012: 103).

How to characterize this “illative” core of argumentation from the “informal” or broad point of view?

2.

In contrast to classical *soundness*, requiring valid arguments with true premises, *cogency* emerged as the central normative notion in the approaches that remain closer to the practice of argumentation. Unfortunately the notion is not well defined and the usage is not uniform. Some use it *broadly* to cover the qualities of a successful argument, others use it *narrowly* as a characterization of good reasoning (strictly illative moves). Moreover, there are subdivisions within each camp, narrow usage encompasses either inductive strength (corresponding to deductive validity) or both deductive and non-deductive patterns of reasoning. In the other camp some will reserve the label for something like inductive soundness (corresponding to classical soundness), while others speak of *all* of the qualities of a successful argument (deductive or non-deductive). Consider the scheme:

COGENCY	Narrow	Broad
Reasoning	Inductive strength	Inductive and deductive Umbrella validity (Govier)
Argument	Inductive “soundness”	Good

The narrowest option (inductive strength corresponding to classical validity) is exemplified, for instance, by Feldman (2014: 95): “an argument is cogent if and only if it is not valid but the premises of the argument are good reasons for the conclusion,” or “an argument is cogent if and only if it is not valid but the conclusion is probably true if all the premises are true.” Broader, but still limited to non-deductive arguments are typical uses in contemporary critical thinking literature, for instance: “a cogent argument is an inductive argument that is strong and has all true premises” (Hurley 2015: 52 and Baronett 2015: 43). Cogency is “inductive soundness” so to speak. But the textbook usage is not uniform at all, sometimes an idiosyncratic terminology is used: “An argument is *reliable* when it is inductively strong and has all true premises” (Johnson 2016: 10). Or Vorobej (2006: 54): “An argument is reliable just in case both (a) it is not valid and (b) its conclusion is more likely to be true than false, given that each of its premises is true.” The classic Copi textbooks do not define the notion at all, though they do speak about arguments being *fairly cogent* or *moderately cogent* (Copi 1990: 538), qualifications which make sense for inductive strength only.

Cogency as an illative evaluation of the reasoning in a *broad* sense is supposed to cover both arguments which are deductively valid and

those which are inductively strong. According to Cozzo (2017): “A cogent inference is an inference that “compels us to accept the conclusion” if we accept the premises.” Govier (2018: 288) introduced the notion of *umbrella* validity: “An argument is (umbrella) valid if its premises are properly connected to its conclusion and provide adequate reasons for it.” Plumer (2016: 92) stipulates that cogency should be used instead: “I take it to pertain only to an argument’s reasoning or logic, not also to the truth value of its propositional elements (unlike the technical concept of soundness) ... I take cogency to be the broader notion of proper reasoning as compared to the technical concept of validity.” But then, somewhat surprisingly, he adds (Plumer 2016: 92): “Depending on how the constituent notions are explicated, we can agree with Johnson & Blair’s (1977) well-known and widely accepted “RSA” criteria for argument cogency: the premises are to be relevant, sufficient, and *acceptable*.”

The relevance of premises and their sufficiency pertain to the adequacy of the (broad) inferential link: the reasons offered must be probatively relevant to the conclusion and they have to be sufficient for accepting it. The relevance “criterion” is best understood as a criterion of *inclusion* of premises in the analysis and reconstruction of arguments. Only probatively relevant propositions may be counted as premises (Blair 2012: 93). One might say that relevance establishes the inferential *connection* and sufficiency guarantees its *strength*, so you can have relevance without sufficiency (weak connections—typical hasty generalizations). But the converse is not possible, if the premises are not relevant, they cannot be sufficient either (cf. Biro and Siegel 1992). Although there is still some discussion about whether to require truth or acceptability as a condition of premise adequacy (Johnson 2000: 195–199), I agree with the mainstream which favours acceptability over truth. Real life arguing often takes place in contexts characterized by uncertainty (hypothetical and uncertain beliefs, deep disagreements about what is true and false, ethical and aesthetic claims) where the truth is too stringent (or inappropriate). Also, there had better be a sense in which false conclusions can sometimes be reasonably well supported—the whole discussion about pessimistic induction in philosophy of science (the cases of generally accepted but false theories in the past which are supposed to subvert our expectations about our best present-day theories) would otherwise be pointless. Acceptability is an epistemic notion, roughly, premises are acceptable when it is reasonable for those to whom the argument is addressed to believe them (they are justified in believing them).

A negative designation of cogency based on the RSA criteria is now also an option—to be cogent the argument must avoid three basic fallacies: irrelevant reason, hasty conclusion and problematic premise (cf. Freeman 2011: xi). The criterion now amounts to the broad notion of soundness and we thus get cogency in the broadest possible sense. Here

are some variations. According to Adler (2006: 225): “Cogency’ is used broadly to refer both to correct support relations, validity, in the case of deductive arguments, and to the soundness, warrant, and relevance of the premises.” But he then adds: “I use ‘cogency’ as a generic term to cover the qualities of a successful argument.” I suppose this is the dominant view in the theory (if not in the practice exemplified by the textbooks) of informal logic, witness Govier (2018: 287–88): “If the premises of an argument are rationally acceptable and are ordered so as to provide rational support for the conclusion, the argument is cogent.” Or Blair (2012: 46), “A logically ‘cogent’ argument has acceptable premises as well as an acceptable premise-conclusion link” and Hitchcock (2017: 4): “I take an argument to be cogent for somebody when and only when (1) that person has justifications which are independent of the conclusion for accepting its premises and (2) the conclusion follows from the premises.” This is also close to typical philosophical usage, thus Wright (2002: 331): “cogent argument is one whereby someone could be moved to rational conviction of-or the rational overcoming of doubt about-the truth of its conclusion.”

The last option, cogency as a generic term covering all of the qualities of a good, well-reasoned argument seems to me to be the best choice. Narrow (inductive) reasoning is just too restrictive. Why should a simple *modus ponens*, for instance, when considering whether to water the garden, my wife says: “It’s going to rain. If it is going to rain, there is no need to water the garden,” not be a cogent everyday argument? A deduction which never the less moves me to the rational overcoming of doubt about the truth of its (omitted) conclusion. The same considerations will exclude inductive soundness as too narrow. And cogency as broad reasoning implies that valid arguments are *always* cogent, but the notorious question-begging arguments are valid, yet they lack the qualities of being good and cogent arguments, as we shall later see.

Still, we should acknowledge the fact that cogency is a loose evaluative concept and its meaning, as the examples above show, is to some degree stipulative (Plumer 2016: 92). But I think that the oscillation between good *reasoning* (strictly illative moves only) and good *argument*, one which deserves to convince us of its conclusion, marks one of the central turning points of informal logic with respect to classical formal logic. Will an argument fail to be cogent if you have no reason to believe one or more of its premises? Can you have a *well*-reasoned argument with unacceptable premises? Can evidential considerations affect the quality of reasoning in the broad sense? The majority of informal logicians would say *yes*. They frequently view the determination of the *acceptability* of premises as an important part of the logical appraisal of arguments. Whether the relevant premises warrant a conclusion depends on what else is known about the matter under consideration. Plumer (2006: 93) quotes Salmon that nondeductive reasoning is cogent if “the argument has a correct form, and ... the premises of

the argument embody all available relevant evidence.” And according to Pinto (2001: 27): “assessment of inferential link cannot be carried on in isolation from assessment of premise acceptability.” I agree, just consider some typical instances of absent evidence reasoning (or arguments from ignorance):

I checked the train table: the connection between Ljubljana and Venice is not listed. No records, so no train connections? Marco Polo’s travel journals are silent on the Great Wall of China. No evidence, so no visit? If evolution happened, where have all the intermediate forms gone? No fossil records, so no evolution? The fact that no one has been able to pick up a tailpipe from a UFO does not mean UFOs do not exist. Absence of evidence is not evidence of absence? A wave of recovered memories about alien abductions is likely the product of fabrication or suggestive therapeutic techniques, because we have never found any material traces of these alien abductions. No evidence, so no abductions? There is no reliable evidence available to us of the number of stars being even. So it must be odd.

Some of these pieces of reasoning are cogent, some are fallacious, but they display a typical interplay of form and content, logical qualities in a broad sense are affected by epistemic qualities of premises.

3.

I began with the normative issue—the logical evaluation of the “illative” core, but so far I said nothing about the *nature* of this core. Predictably, there is no consent, the informal community is working with the following proposals for the premise—conclusion relation: (i) no strictly *logical* connection (“non-logical” consequence); (ii) one type of connection only (deductivism); (iii) a few types of connection (deduction, induction, perhaps conduction and analogical reasoning); (iv) many types of connection (argumentation schemes).

As for the first option, one could start with classical deniers, say Quine (1986, vii) and his dismissal of the application of the word ‘logic’ as covering both, deductive and inductive logic: “The philosophy of inductive logic, however, would be in no way distinguishable from philosophy’s main stem, the theory of knowledge”. *Informal logic* as a separate approach was more visible for Hintikka (1999: 115): “I have a great deal of sympathy with the intentions of those philosophers who speak of ‘informal logic’, but I don’t think that any clarity is gained by using the term ‘logic’ for what they are doing.” One can still find claims that “Nonformal logic is the science of arguments not strictly governed by consequence” (Hanna 2006: 30) and even informal logicians themselves, in the spirit of rejecting formal logic as the tool to be used for the analysis of natural language argumentation, sometimes characterize illative moves as “non-logical” consequence (Hitchcock 2009). These claims are based on a certain narrow conception of logical form and logical consequence—what is distinctively logical about arguments is associated to their *formal* aspects, where individual arguments are val-

id only in virtue of instantiating truth-preserving logical forms investigated by formal deductive logic. But why exclude the clearly *logical* dimension of everyday argumentation from the domain of logic in a broad sense? To be fair, Hitchcock has done a lot to clarify the general notion of “follows from” but he later calls it, more aptly, *material consequence*.

On the other extreme one finds a growing collection of argumentation schemes—“forms of argument (structures of inference) that represent structures of common types of arguments used in everyday discourse, as well as in special contexts like those of legal argumentation and scientific argumentation” (Walton 1996: 1). Examples are means-end reasoning, inference to the best explanation, inductive generalization from instances, reasoning from the results of a randomized trial to a causal conclusion, lack-of-knowledge arguments, and so forth. Walton initially discussed 25 schemes, but Walton, Reed and Macagno (2008) later identify 96 distinct argumentation schemes. A lot of important work has been done within this approach, but the inflation of presumably good patterns schemes (like the inflation of “bad” patterns within the fallacy approach to informal logic) has not really helped to clarify the nature of the “following from” relation. Especially since we can, apparently, multiply schemes indefinitely. Do all of these patterns share a common logical core or not?

Two options remain: deductivism and the approach, nowadays dominant, which recognizes various degrees or kinds of the premise-conclusion connection. Govier (1992: 393) calls the last approach the *pluralist* view of cogency, though it is clear that pluralism encompasses a very *limited* number of relations: deductive entailment, conducive support, inductive support and analogy.

Deductivism is the view that ordinary arguments are best analysed as deductive inferences, but this does not mean that the analysis and appraisal of arguments is based upon classical *logical* form and this or that formal system. All defenders of deductivism agree that an inference is deductively valid if and only if it is impossible for its premises to be true and its conclusion false. But they add that not every aspect of good reasoning boils down exclusively to classical soundness. According to the *weak* version deductive validity should not be equated with formal validity: *material* validity will do just as well. Given the premises: “Ann is taller than Bill and Bill is taller than Mary” it is impossible that it should be false that “Ann is taller than Mary.” This impossibility is explained in terms of the meanings of non-logical terms (“being taller than”) not in terms of standard logical constants. According to *strong* deductivism, however, a principal factor in distinguishing good from bad reasoning is *inferential* deductive validity where an inference is deductively valid if and only if it is *logically* impossible for its premises to be true and its conclusion false.

Jacquette (2007 and 2009) defends strong deductivism, all and only good reasoning is, minimally, deductively valid inference:

According to deductivism, formal logic is therefore the continuation of informal logic by more rigorous symbolic mathematical methods, while informal logic is the continuation of formal logic by non-symbolic nonmathematical means (2009: 189). /.../ There is but one logic, then, whose gold standard is deductive validity, with purely formal and purely informal logical methods appearing at the extremes of a spectrum of ways of understanding the deductive validity status of inference (2009: 192).

But he immediately faces the problem that valid arguments with true premises are always sound, but not always cogent. There are seem to be instances of fallacious reasoning which are deductively valid and Jacquette readily accepts the challenge: “A single deductively valid informal fallacy is sufficient as a fatal counterexample to deductivism” (2009: 190). He never the less tries to defend deductivism by treating all recognized informal fallacies as *deductively* invalid. A discovery of a single deductively valid informal fallacy or of a cogent but deductively invalid reasoning would present a counterexample to strong deductivism. I will critically discuss the first option only. And one fallacy only—I think that circular reasoning or *petitio principii* is a touchstone for strong deductivism.

Jacquette attempts to *reconstruct* begging the question as a deductively invalid piece of reasoning. The full content of circular reasoning for him is not: “P, therefore P” but rather “P, therefore it is significant (worthwhile, informative) to conclude that P” (Jacquette 2009: 203–204). According to this expanded reconstruction it is logically possible for the assumption to be true and the conclusion false—uninformative and insignificant (Jacquette 2009: 204): “the thinker falsely supposes that it is significant, worthwhile or informative to conclude that a certain proposition is true from an assumption base that includes the very same true or false proposition.” Jacquette acknowledges the fact that it may be an *informal* matter to judge the relevance of the conclusions in question.

According to this diagnosis it is always possible that in circular arguments the premises are true but it is still false that it is significant, worthwhile or informative that the conclusion is true. Of course, every traditional fallacy of relevance will automatically fit this bill of invalidity (appeal to force, ad hominem, straw man, missing the point, red herring ...)! This looks like a very cheap victory for deductivism and almost trivial. Defenders of deductivism can be more informative. *Weak* deductivism claims that “natural language arguments should be understood as attempts to formulate deductive arguments” (Groarke 1999: 2). This claim is perfectly compatible with the RSA criterion of cogency. The difference between cogent and fallacious arguments is then to be found in the truth or plausibility of their premises. *Petitio*, though valid, is not cogent because the premises are not *acceptable* (for the audience in doubt of the conclusion).

Jacquette has to offer a different diagnosis: *petitio* is not valid because the conclusion is not inferred *significantly*. Now, being “signifi-

cant” is on a different level than being “true” (or acceptable), what we have is a normative assessment of reasoning and as we remember from Carroll and his Tortoise (1895), it is never a good policy to mix the levels. First of all the explicit form cannot be just “P, therefore it is significant to conclude that P.” It might be the case that for a certain type of audience it is significant to conclude that P and resolve a certain issue, perhaps to justify P by some other reasons. The intended reading must then be: “P, therefore it is significant to conclude that P from P.” In order to assess the validity of *this* reasoning we now need a criterion of significance. The conclusion (“It is significant to conclude that ...”) will then be false either because it violates certain dialectical (rhetorical) norms or because it violates norms of cogency. In any case deductive *invalidity* is not doing any work at all—one could just as well drop the initial *P* from “P, therefore it is significant to conclude that P from P;” and explain why it is not significant (informative, etc.) to conclude that P from P! But the explanation will not appeal to the notion of deductive validity.

Moreover, strong deductivism is in danger of falling into the old trap of proclaiming *all* deductively valid arguments as question-begging. All that Jacquette (2009: 204) has to say about this old conundrum is: “The same lack of significance need not plague logically more complex deductively valid inferences, such as *modus ponendo ponens* or *tollendo tollens*, *reductio ad absurdum*, or the like, if these inferences are considered as issuing in worthwhile or informative conclusions.” Well, what is the difference? To infer, say, “P & Q, therefore P” is presumably not significant. But “P & Q” is logically *equivalent* to “Q & (Q => P)”, so why should *modus ponens* “Q, Q => P, therefore P” be any better in terms of significance? The selection of premises obviously plays an important role. But why so?

Jackson (1987) makes an interesting proposal. By propounding an argument I offer to my audience not only premises as evidence for the conclusion but, in an implicit way, also reasons (evidence) for the *acceptability* of those premises. To take his example:

A Mary is at the party. If Mary is at the party, Fred is too. So, Fred is at the party.

The hearer is entitled to infer that I have *separate* evidence for each of the premises. Perhaps I have just seen Mary at the party, and I also know that Mary and Fred always go to parties together. The way of presenting my argument and the selection of premises provide important information about the evidence available for possible “borrowing.” The hearer knows enough about the kind of evidence likely to lie behind my assertions (perception, familiarity with the couple) to borrow it to good purpose. Now take:

B Mary and Fred are at the party. So, Fred is at the party.

In general, to infer “P & Q, therefore P” is not significant, or, as Jackson would say only “marks time.” But this need not be true for “Q, Q => P, therefore P” (the form of our first argument). The difference

will be explained in terms of the kind of (implicit) reasons I have for the *acceptability* of my premises and the hearer of the argument then borrows. If she doubts the conclusion in the second case (B) she will very likely have background beliefs relative to which the reasons indicated by propounding the argument (seeing them both at the party) will have no impact. This is precisely Jackson's definition of *begging the question* (1987, 35): "an argument such that any (sane) audience which was in doubt about the conclusion would have background beliefs relative to which the evidence provided by propounding the argument has no impact." Note: reasons (evidence) for *accepting* the premise are decisive for the question whether the argument is fallacious or not. Evidential considerations affect the quality of reasoning in the broad sense.

4.

Jackson emphasizes a dialectical and pragmatic dimension of propounding an argument—the *persuasive* power of the argument depends on the impact of the evidence implicitly offered for borrowing on the particular *audience*. This might lead to a different diagnosis of *petitio* and perhaps another escape route for deductivism. Circular reasoning "is not fallacious in the true sense of the word, but objectionable and to be avoided in argumentation for another reason" (Jacquette 2009: 203). *Petitio principii* is generally lacking in argumentative significance, but this alone does not make it fallacious, this form of reasoning remains *valid*. This strategy is in line with contemporary rhetorical and pragma-dialectical approaches to argumentation. Thus Perelman (Perelman and Olbrechts-Tyteca 1971: 112): "the *petitio principii*, which does not concern the truth but the adherence of the interlocutors to the presupposed premises, is not an error of logic, but of rhetoric / ... / an error in argumentation."

Crudely put—an *argument* is a set of statements or propositions or natural-language declarative sentences one of which is the conclusion, the remainder of which are the premises. *Argumentation* is the activity of arguing, a complex, social speech act in which either only one speaker presents a thesis to an audience and defends it or more speakers do so "dialectically." According to epistemic theories the principal goal of argumentation is, roughly, to induce belief or elicit a reasoned change in view (Harman 1986). Perelman defends a different, *rhetorical* theory of argumentation—the goal of argumentation is to cause or increase the *addressee's* belief in the conclusion. And *consensus* theories of argumentation see argumentation as a means for reaching consensus, or, in a more elaborate way (Eemeren and Grootendorst 2004: 1):

Argumentation is a verbal, social, and rational activity aimed at convincing a reasonable critic of the acceptability of a standpoint by putting forward a constellation of propositions justifying or refuting the proposition expressed in the standpoint.

Circular arguments, in general, are fallacious because they violate normative rules of dialogue which demand consensual starting points. Fallacies are bad arguments in the sense of being Gricean failures of co-operation which violate rules of critical discussion. There are eight such rules and the sixth rule (the starting point rule) states (Eemeren and Grootendorst 2004: 193):

Discussants may not falsely present something as an accepted starting point or falsely deny that something is an accepted starting point.

By falsely presenting something as a common starting point, the protagonist tries to evade the burden of proof. The techniques used for this purpose include advancing argumentation that amounts to the same thing as the standpoint. Consider *The Bank Manager Example*, “a staple of many textbooks”:

Manager: Can you give me a credit reference?

Smith: My friend Jones will vouch for me.

Manager: How do we know he can be trusted?

Smith: Oh, I assure you he can.

In this dialogue one person is supposed to vouch for the reliability of the other. The reliability of the vouchee is in doubt and some secure source is needed to reassure this doubt. But if the reliability of the voucher is questioned, the reliability of the vouchee cannot be used to reassure this doubt, because it is itself in doubt, in the first place (cf. Walton 1991: 248). One could as well say that Smith falsely presents his reliability as an accepted starting point in a dialogue. But now consider the famous Moore’s argument for the existence of an external world (Jackson 1987: 35):

M1: This is a hand.

M2: A hand is an external object.

Therefore: At least one external object exists.

According to the pragma-dialectical approach dogmatist (Moore) *false-ly* presents his hands as an accepted starting point (as an object in the external world) in his dialogue with the skeptic.

I cannot discuss all of the nuances of this approach, let us just ask ourselves, *why* is the first premise a false move in the Moore’s case? And what differentiates *petitio* from other unacceptable starting points (say inconsistent, irrelevant or doubtful premises)? The discussant who in the discussion fulfils the role of protagonist of a standpoint will in the argumentation stage at a certain moment express a proposition that he claims can be identified as a common starting point by means of the “intersubjective identification procedure.” But how will this procedure look like? When the premise is not equivalent to the conclusion it is not at all easy to identify common starting points. I think that the falsity will be revealed through reasoning in the *broad* sense. To continue in line with Jackson—what matters is not just the premises themselves, but the reasons offered for their *acceptability*: M1 is

supported by perceptual experience. The sceptic, doubtful about the conclusion, will point out that it is seriously possible that there are no external objects, since we are, say, envatted and handless brain-in-a-vats, having non-veridical sensory experiences. This background will *block* the perceptual reasons for M1 and thus make this premise ineffective. In any case the diagnosis of the falsity is *epistemic*: the premise in the examined case of arguing is epistemologically unsuitable for the purpose of proving (justifying) the conclusion in that particular discussion. And, therefore, we may add, an unacceptable starting point.

Pragma-dialectical approach is perhaps inspired by Aristotle—in the *Topics* he is concerned with contentious disputation between two or more parties. *Begging the question* is said to occur where a questioner, the party who is supposed to be arguing for a certain thesis, asks to be granted the thesis as a premise to be conceded by his opponent. Aristotle uses the same terminology in the *Prior Analytics* (64b 33), where he says it is the attempt to prove what is not self-evident by means of itself. But demonstration proceeds from what is more certain or better known: if a man tries to prove what is not self-evident by means of itself, he begs the original question (64b 37). To beg the question is to violate the *epistemic* principle of the priority in knowledge of the premises over the conclusion in a demonstration. This second account is epistemic, the first dialectical or conversational. Sosa (2004: 57) suggests to use “vicious circularity” in the first case and reserve “begging the question” for something involving not so much proper reasoning as proper dialogue. But it is clear that Jacquette and pragma-dialecticians aspire for a *uniform* explanation of all of the cases in terms of violating certain pragmatic rules. Unsuccessfully, as I have tried to show.

There are various other ways of how to disqualify question-begging arguments as not cogent. According to Woods (2004: 34) “p, so p” is always a fallacious inference but there is nothing wrong with the *entailment* “p entails p.” Plumer (2016: 92) declares such arguments as cogent and fallacious (well- and poorly reasoned) at the same time in different respects. But if question-begging arguments are not cogent because the inferential link is defective then cogency incorporates epistemic considerations. In the simplistic formulations above some premise of the argument is *equivalent* to the conclusion. I believe that the *dependency* conception, illustrated by Moore’s proof, is more general (cf. Walton 2006). Normally the “flow of inference” in an argument is from the premise to the conclusion. But where it is also required that an inference be made in the other direction, from the conclusion to the premise, the argument begs the question. In every argument the conclusion depends, justificatorily, on the premise, but when the “flow of justification” goes in both directions, the argument begs the question. *Blockades* are also part of the “fallacious” inferential game: doubts about the conclusion might prevent the premise of having any *inferential* power. In any case *petitio* violates the normative requirements of

good *reasoning* in a broad sense, it is “fallacious in the true sense of the word,” not just pragmatically inappropriate.

5.

If strong deductivism is true, then reconstructions of the informal fallacies (violations of the RSA criteria) as deductive invalidities are possible in every case. I argued that *petitio* remains “a fatal counterexample to deductivism.” Weak deductivism, however, remains a viable option for the premise—conclusion relation. Remember: deductive validity is not defined by “formal validity” as canonized in a certain formal system. An argument is deductively valid if (and only if) it is impossible for the premises to be true and the conclusion false, and *material* validity will do as well. Deductivism within informal logic also “recognizes that the domain of premise/conclusion relations is only one ingredient of good argument, and that it is an ingredient which needs to be situated in a more comprehensive account of argument which includes an account of differences of opinion, standpoints, implicit and indirect argument components, and so on” (Groarke 1999: 5). Pragma-dialecticians actually *embrace* deductivism in the form of indirect speech acts expressing hidden premises which make arguments valid.

How to situate weak deductivism with respect to cogency? We might say with Govier (1992: 393) that an argument is cogent if and only if (1) its premises (explicit and implicit) are acceptable to the audience to whom the argument is addressed; (2) its explicit premises, when properly supplemented by implicit premises, deductively entail its conclusion. When the premises of an argument deductively entail its conclusion, that argument satisfies the relevance and sufficiency conditions according to Govier (2010: 90). This is slightly imprecise—I agree with Hitchcock that a deductive argument still establishes its conclusion if it contains an irrelevant premise; it is simply inelegant because of this superfluity (Hitchcock 2017: 361). Still, let us assume that deductive arguments are unobjectionable from the ‘R’ and ‘S’ point of view. But, as we saw, cogency includes acceptability and for Govier (2018: 430) at least, question-begging arguments “will be adequate from the point of view of deductive logic, and yet be *inferentially* flawed because the audience cannot rationally move from acceptance of the premises to acceptance of the conclusion.”

Weak deductivism is a very simple theory—the inference relation is an all-or-nothing thing. For the opponent, to use a metaphor suggested by Groarke (2009: 102), the inference relation is like glue which comes in different strengths: “Sometimes premises and conclusion are glued so tightly together, the bond is almost unbreakable; sometimes the bond is extremely weak and tenuous; sometimes, somewhere in-between.” I think that the strongest case for deductivism comes from pedagogical practice. There is only one type of reasoning and instructions for the reconstruction of natural language arguments are very simple:

look for additional premises that explicitly link the original premises to the conclusion in such a way that the reconstructed argument comes out as valid. The whole burden of evaluation is then on the acceptability of the premises. This comes as a relief for anybody engaged in teaching informal logic and critical thinking where one often wonders what kind of techniques, exactly, to teach and how to test the results.

Attractive as it is deductivism also has some well-known deficiencies. Many arguments appear to offer reasonable, but not deductively conclusive justification for their conclusions, yet the hidden premises needed to make them valid are just too strong and so unacceptable. Consider the very mundane case discussed by Groarke (2009: 97): “The weather network said it was going to rain tomorrow. Therefore, it is going to rain tomorrow.” On the face of it, this is as good as it gets, reasonable enough to accept, but, of course, fallible. But Groarke, in order to make it deductively valid, includes a hidden premise: “The weather network is never wrong.” And he adds: “This is not, of course, a sound argument. The hidden premise is just silly.” But why adding a *silly* premise? He speculates that the person who argues has a naïve confidence in the accuracy of the weather network’s forecasts. Well, she might, but it is much more plausible to start with the everyday assumption that the arguer is using ordinary inductive type of reasoning. Groarke (2009: 98) considers this option in the form: “The weather network said it was going to rain tomorrow. Therefore, it is probably going to rain tomorrow.” We are now supposed to add a hidden premise: “The weather network is *usually* accurate.” And he thinks that a rational agent cannot believe in the first two premises without believing in the conclusion, so, given the premises, it *must* be the case that it will probably rain tomorrow. The main tenet of deductivism—that the truth of the conclusion of a good argument follows necessarily from the truth of the premises—is thus compatible with probabilistic reasoning.

I agree with Godden (2005: 173) that deductive standards preserve truth but not plausibility, probability, or likelihood. The lottery paradox is quite convincing: consider a fair 1000-ticket lottery that has exactly one winning ticket. For each *individual* ticket it is highly probable (99.9%) that it will not win, but we cannot *deduce* that it is highly probable that *no* ticket will win. A rational agent can believe in the whole lot of a thousand premises without believing in the deductively inferred conclusion.

Probability is a complicated issue, however, and a relation between deduction and induction is a huge issue (Jacquette (2009: 201, fn. 5) quotes a slogan attributed to Sellars: “An inference is either deductive or defective.”) Still, I find it difficult to accept that the only good arguments are those for which *absolutely* no counterexample is to be found. Govier (1992: 403) offers a more plausible variety of *grounding* relations: premises ensure/entail/make it probable/support/give evidence ... that the conclusion is true. Or, better still, in terms of counterexamples (Godden 2005: 171), accepting the premises of the argument,

we should accept its conclusion if (i) the only counterexamples to be found are highly improbable; (ii) the only counterexamples to be found are less probable than the premises; (iii) no counterexample has been found yet (it has not been falsified); (iv) no counterexample is already to be found amongst our beliefs (coherence). In all of these cases it is logically possible for the conclusion to be false given the truth of the premises, but this alone does not automatically disqualify the inferential links in the arguments. Pluralism with relatively “high electoral threshold” so to speak (deduction, induction, perhaps conduction and analogical reasoning) seems to be the best option for the “following from” relation.

6.

Johnson and Blair (2002: 352) remarked that formal logic began with Frege as a revolution at the level of theory that later filtered down into logic textbooks. In informal logic developments at the theoretical level were largely motivated by the attempt to teach students how to assess arguments in use. We saw that deductivism offers an attractive toolkit. But there is another option. Suppose we take the bottom-up approach as our starting point for the general understanding of the “follows from” relation. One of the main logical skills (to be developed by “critical thinking courses”) has always been the technique of counterexamples: the conclusion does not follow, it is *possible* to accept all of the premises but deny the conclusion. But one should consider *plausible* counterexamples only, not just any logical possibility. Weak deductivism already embraces arguments which are materially valid (it is *logically* possible for premises to be true and the conclusion false, but given the *meanings* of non-logical terms this is not possible). Why not continue in this spirit and impose further limitations on the range of possibilities to be considered?

Consider, as an example, some contemporary ecological hot issues in Slovenia. In a predominantly rural area with a high unemployment rate an international corporation proposed to build a car lacquering factory on mainly agricultural premises. Predictably a lively controversy ensued, the government and the defenders of the proposal argued in the following way:

There is large unemployment and there are no other economic activities in this area, so we should not oppose the foreign corporation in their decision to build a car lacquering factory on these agricultural premises.

Is it possible for the premises to be true and the conclusion false? We are interested in serious, contextually relevant possibilities and the best way to focus on them would be to *extract* the “broad” logical form, something like:

In the area A we need Y. Z is a source of Y. In the area A there are, currently, no other sources of Y. The benefits of Z outweigh the downsides. Therefore we should approve of Z.

We treat some of the *repeated* content expressions as variables and the rest of the argument as logical framework to be kept fixed when we engage in looking for potential counterexamples. Z (car lacquering factory) is really a source of Y (prosperity) in the area, but it is not the *only* possible source of prosperity and even if benefits outweigh the downsides it might still be sensible to deny the conclusion (just consider chemotherapy and cancer). Now consider a different argument based on the same pattern of reasoning. In a windy Karst area, rarely populated but otherwise a well-known bird resort, the government proposed to build wind farms. Again a lively controversy ensued:

In the area A we need Y. Z is a source of Y. In the area A there are, currently, no other sources of Y. The benefits of Z outweigh the downsides. Therefore we should approve of Z.

The discussion was mostly about the *acceptability* of premises (opponents operate with a rather vague notion of downsides, including “degradation of the landscape” etc.) and it is again possible to accept the premises but deny the conclusion even if benefits outweigh the downsides. Here, it seems, given the “overall” damage done to the environment by other potential sources of electricity, this possibility is less relevant than in the first case.² Perhaps a purely deductive reconstruction is also possible—weak deductivism is an attractive option. One could add premises about the degradation of the landscape and the protection of birds on one side and new employments, less need for other, more problematic sources of energy on the other side and so on. But the list is not fixed, and it seems more plausible to incorporate the content of hidden premises as *guidelines* for potential counterexamples.

Aristotle already typically proves the invalidity of a given syllogistic mood by providing an argument displaying the given form but which is obviously *invalid* (with true premises and false conclusion). Cogency can be tested in the same way, by matching the structure of a given argument with that of an argument whose cogency is known or obvious. This tactic is called “refutation by logical analogy” and it is based on duplicating the core of an argument in another argument by varying certain inessential components (marked by variables) while preserving the essential ones. If the parallel argument is not cogent, the original argument is not cogent either. In classical logic the essential/inessential partition of vocabulary is given in advance, logical constants are essential, descriptive terms are variable. And, secondly, when inspecting the space of possibilities opened by the variable interpretations of non-logical constants, we have to consider *every* possibility. Not so when we search for counterexamples to cogency: a *limited* (relevant) set of interpretations has to be considered for ‘A’, ‘Y’ and ‘Z’. According to Quine’s formulation descriptive terms occur vacuously in logically val-

² So says the informal logician in the year of 2018. Interestingly enough, the car lacquering plant was actually built and windmills were not. As we all know, decisions are not always based on logic, even logic broadly understood.

id arguments and essentially in extra-logically valid arguments. But when considering *cogency* and testing for broad logical consequence in “natural” arguments some descriptive terms are contextually vacuous (replaced by variables *A*, *Y*, *Z* in our example) and others are fixed (‘area’, ‘source’, ‘benefits’, ...).

I think that this approach best captures the interplay of form and content, the mix of purely inferential and epistemological, so typical for “informal” evaluations. Adler rightly observes (1997: 335):

The proper notion of structure or form is much broader than the notion of logical structure or form. Whenever we distinguish in an inference pattern between constant elements and variables, open to substitution, where the inference turns on the pattern of these constant elements, and not the substitutions for the variables, we are specifying a structure or form (Brandom 1988). Additionally, the pattern must yield a rich set of inferences. On this conception, criticizing some arguments for the falsity of a premise, when it expresses a rich, structural pattern, does constitute the finding of a defect in form.

Traditionally this broad notion of structure was associated with the shift from the *form* to the *matter*. Thus understood the form versus matter distinction relies crucially on a partition of the vocabulary: some of the terms of an argument are thought to pertain to its form, while others are thought to pertain to its matter. Logical constants remain fixed while substantial ‘material’ terms are replaced by schematic letters (“All *A* are *B* and all *B* are *C*, so all *A* are *C*”) and the ruling out of true premises and a false conclusion is due to the meaning of *logical* terms. According to the material *consequence* the conclusion follows because of the meaning of non-logical terms. Bolzano speaks about the *deductive* consequence in the broad sense but I prefer to speak about the consequence in the *broad* sense (cf. Šuster 2012).

I think that the best contemporary development of this broader sense of form or broad consequence can be found in the work of David Hitchcock (2017). He first spoke about “enthymematic validity,” then wrote about “non-logical consequence” and finally settled for “material validity” and “material consequence” in line with the established tradition. Material consequence is the relation that results when some but not all of the non-logical terms are treated as if they were logical. According to his definition (Hitchcock 2017: 124):

A conclusion is a consequence of given premises if and only if the argument is an instance of an argument scheme, which may or may not be purely formal, that has no actual or counterfactual instances with true premises and an untrue conclusion, even though it has an instance with true premises and an instance with an untrue conclusion.

He later explains the inference-claim of an argument as the claim that it has a contentful covering generalization that is non-trivially true. A conclusion follows from stated premises in accordance with a counterfactual-supporting covering generalization of the argument’s “associated conditional”: the material conditional whose antecedent is the conjunc-

tion of the reasons and whose consequent is the claim. Freeman (2011: 176–179) nicely summarizes this approach in terms of a *recipe*. Consider:

Socrates is human. Therefore Socrates is mortal.

First identify the repeated content expressions in the argument and uniformly replace *repeated* content expressions with variables of the appropriate category (human, mortal):

x is human, therefore x is mortal.

The variable components are the ones such that “intracategorical” replacement of them results in an analogue which is a potential counterexample to the original argument. Now form the associated generalized conditional, the covering generalization (the conjunction of the premises of the argument as the antecedent and the conclusion as the consequent):

For every x: If x is human, then x is mortal.

To claim that the conclusion of an argument follows from the premises is, according to Hitchcock, to claim that the covering generalization is necessarily true for some sense of necessity.

The recipe might work for some simple arguments, but I think that ecological issues mentioned above already escape the purely “algorithmic” approach. Hitchcock rightly points out that in assessing whether any argument’s conclusion follows from its premis(es), we regard certain components as fixed and others as variable. But in general we can only provide *guidelines* for determining which of the components are fixed and which are variable. Also, I can hardly agree with the *total* dismissal of deductivism: “The doctrine of implicit premises is largely a myth. Theorists of argumentation and practitioners of argument analysis and evaluation should abandon it” (Hitchcock 2002: 160). Some arguments should really be analysed as *enthymemes*, deductive patterns with missing premises. A principled division between *material* consequence and deductive consequence proper is still an open question (though Freeman 2011: 173–195, makes some interesting proposals).

In any case Hitchcock has developed a promising approach to understanding the “follows from” relation, and I cannot do justice to all of the details of his rich analysis. I think that *broad* logical consequence, based on the traditional idea of counterexamples and the interplay of form and content best captures the central idea of normative assessment in the area of everyday arguments, something like (Fisher 2012: 25): “Could the premises be true and the conclusion false judging by appropriate standards of evidence or appropriate standards of what is possible?”

7.

When explaining the “informal” terminology Blair (2015: 28) makes an interesting analogy:

You need to be wary of the notion that in the term “informal logic,” the word ‘informal’ means “informal” and the word ‘logic’ means “logic.” It is like

the use of the term ‘football’ north of Mexico. In the USA and in Canada, the games called “football” don’t much call for the players to control a ball with their feet. Informal logicians use variables, and talk about argument schemes, which are quasi formal. So informal logic is not strictly-speaking informal. And if you understand by logic the study of axiomatized deductive systems, informal logic is not logic.

Let me further develop this analogy. According to *Wikipedia* “Football is a family of team sports that involve, to varying degrees, kicking a ball with the foot to score a goal. Unqualified, the word football is understood to refer to whichever form of football is the most popular in the regional context in which the word appears.”³ And even more formal *Encyclopædia Britannica* characterizes football as “any of a number of related games, all of which are characterized by two persons or teams attempting to kick, carry, throw, or otherwise propel a ball toward an opponent’s goal. In some of these games, only kicking is allowed; in others, kicking has become less important than other means of propulsion.”⁴ In the same spirit we could ask: are the boundaries of logic really determined by the rules of formalization, axiomatic systems and classical deduction? Theory of proofs, theory of models, recursive functions ..., belong to a certain “regional” variety of logic. But logic in a broad sense (patterns of reasoning which by a certain type of necessity preserve acceptability) can be played differently. True, the rules are not strict, but we play that game everywhere and every day.

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³ Cf. <https://en.wikipedia.org/wiki/Football> (accessed July 21th 2017).

⁴ football. (2013). *Encyclopædia Britannica. Encyclopædia Britannica Ultimate Reference Suite*. Chicago: Encyclopædia Britannica.

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