# Classifying Argument Models

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# Classifying Argument Models

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ABSTRACT: An argument model is a specification of the parts of a simple argument. I propose a classification of argument models based on the oppositions generalism vs particularism and atomism vs holism. I will show that the standard premise-conclusion model is atomistic and particularistic, and that Toulmin soundness model is atomistic and generalist while Toulmin force model is holistic and generalist. Finally, I will outline a modified version of Toulmin model, inspired by holism of reasons, that is holistic and particularistic.

KEYWORDS: argument part, atomism, generalism, holism, particularism, Premise-conclusion model, Toulmin model, warrant.

## 1. ARGUMENT MODELS

An argument model is a specification of the parts of a simple argument, that is, of an argument that has no parts that are themselves arguments.

It is difficult to define 'part of an argument' without referring to some particular argument model —in fact, a model arguably provides, among other things, a definition of 'part of an argument'. In almost every logic textbook you can find a definition like this one: "An argument can be defined as a complex symbolic structure where some parts, known as the premises, offer support to another part, the conclusion." (Dutilh Novaes 2021). Catarina Dutilh Novaes' definition fits the traditional premise-conclusion model, according to which the parts of an argument are the premises and the conclusion.

An argument model provides a criterion of argumentative identity based on the acceptance of the following principle: A is the same argument as B if and only if A and B have the same parts (arranged in the same way). This definition expresses a basic intuition about the parts of an argument: the parts of an argument are those considerations that differentiate an argument from another.

There are two main models of argument: the premise-conclusion model and the Toulmin model. However, the differences between them are not always well understood. In the former, the parts of an argument are the premises and the conclusion, while the Toulmin model distinguishes six elements in an argument: claim, data, warrant, backing, qualifier, and exceptions. Could it be said then that the Toulmin model distinguishes more parts in an argument than does the premises-conclusion model? Are data and warrant different kinds of premises? Are these differences merely terminological? In the following, I will attempt to answer these questions.

## 2. BASIC DISTINCTIONS

I borrow two distinctions from the theory of reasons to explain the differences between the premise-conclusion model and the Toulmin's model.

The first is the distinction between generalism and particularism. Adapted to argumentation theory, generalism claims that arguing involves applying general rules that specify what kinds of conclusions can be drawn from what kinds of data, whereas particularism claims that it is possible to argue without appealing to any general rule. For example, a particularist might maintain that arguing presupposes only the ability to grasp relevant similarities between arguments. To prevent misunderstandings, I note that by 'rule' I mean a directive that, under certain assumptions, prescribes or authorizes the performance or omission of an action or conduct. A rule is always a rule for doing something, as Wilfrid Sellars (1953, p. 329) says.

The second distinction is that between holism and atomism. Holism and atomism refer to the contextual or non-contextual character of reasons. For holism, whether a consideration is a reason for something, and what its weight is, depends on contextual factors, while for atomism, if a consideration is a reason, it is so in any context and with the same weight. Transposed to argumentation theory, holism is the thesis that the logical properties of an argument depend on factors that are not part of the argument, and atomism the thesis that the parts of the argument and their disposition completely determine its logical properties. Throughout this paper logical properties are understood in opposition to rhetorical and dialectical properties. Rhetorical and dialectical properties of an argument refer to its effects, intended or actual, on the audience and on the communicative exchange, respectively. For my purposes it is enough to say that the logical properties of an argument are those that can be defined without mentioning neither the audience nor the conventional rules governing argumentative practices.

Although there is some affinity between holism and particularism, both in the theory of reasons and in the theory of argument, all four combinations are possible. I will show, successively,

- first, that the premise-conclusion model (PCM) is atomistic and particularistic;
- second, that Toulmin soundness model (TSM), which corresponds to the first; level of analysis of Toulmin, Rieke & Janik (1984), is atomistic and generalist.
- third, that Toulmin force model (TFM), which incorporates exceptions or conditions of rebuttal, and corresponds to the second level of analysis in Toulmin, Rieke & Janik (1984) is holistic and generalist;
- finally, that a modified version of Toulmin's model (MTM), that results from incorporating to TSM Dancy's (2004) conditions and modifiers and analogy as an alternative to warrants, is holistic and particularistic.

## 3. THE PREMISE-CONCLUSION MODEL (PCM)

In PCM an argument is a pair formed by a set of statements, called 'premises', and a statement, called 'conclusion'. The role of the premises is to lend support to the conclusion. A second postulate of premise-conclusion models is that the validity of an argument depends only on an intrinsic relation between its premises and its conclusion. Validity is

thus an intrinsic property of arguments, and if an argument is valid, it is valid in any context. To refer to the appropriate relationship between the premises and the conclusion of an argument, concepts such as logical inference or consequence are used. Hence, premise- conclusion models are inferentialist or consequentialist. As a corollary of these postulates, we arrive at the following principle:

> - Atomistic principle. All contextual information relevant to determine whether the conclusion can be drawn from an argument concerns the properties of its parts.

(The atomistic principle is similar to the PC [Premises-Conclusion] requirement formulated and criticized by Don Levi, 1995, p. 80).

The atomistic principle introduces a new aspect to the notion of part of an argument. According to the previous definition, the parts of an argument are those elements that determine its identity. The atomistic principle extends this notion to all elements that are relevant for the evaluation of its logical properties. On an atomistic account, the parts of an argument are those elements that determine its logical properties. Sometimes the premises made explicit by the arguer seem insufficient to evaluate the logical properties of an argument. This leads Atomists to the conclusion that, in these cases, the non-explicit assumptions on which the validity of the argument also depends are implicit premises. The problem of implicit premises is a specific problem in argumentation theory arising from adherence to the atomistic principle, which should not be confused with the more general pragmatic problem, studied in philosophy of language and linguistics, of the distinction between what is said and what is communicated, which has given rise to concepts such as implicature. The reason for adding implicit premises is not the discrepancy between what is said and what is meant, but that the explicit premises do not seem sufficient to determine the logical value of the argument.

A model is generalist if the passage from the premises to the conclusion must be authorized by some general rule or principle. It must be remembered that a rule of logical inference such as modus ponens — B follows from A and If A then B — merely asserts a relationship between statements and is therefore not a rule in the sense required by generalism, since it neither prescribes, nor forbids nor authorizes any action (Harman 2002). In standard PCM the conditional 'if Harry was born in Bermuda, then Harry is a British subject' is an implicit premise of the argument Harry was born in Bermuda, so Harry is a British subject, which makes explicit the inferential commitment of the argument. If it is the conditional that entitles us to infer the conclusion from the premises, PCM is particularistic, because 'if Harry was born in Bermuda, then Harry is a British subject 'is a particular statement, not a general rule. Thus, we recognize an argument validity by grasping its form, not by realizing that it is the result of applying some rule.

## 4. TOULMIN TWO LEVELS OF ANALYSIS

Although Toulmin's model distinguishes up to six elements in an argument (data, claim, warrant, support, qualifier and exceptions), I will deal mainly with the first three and the last one. To lighten the exposition, I will ignore backing. All these components are relevant to determine whether the requirements for drawing the conclusion are met, but that does

not imply that they are parts of the argument, unless one assumes something like the atomistic principle.

Toulmin, Rieke & Janik (1984) distinguish two levels of analysis of arguments, focusing on soundness and strength. The first level of analysis involves the elements that can be found in any fully explicit argument: claim, data, warrant and backing (Op.cit.: 25), while the second level adds the two remaining components: qualifiers and exceptions. These authors thus explain the difference between soundness and strength:

> Whether or not an argument is sound depends on whether or not the required connections between the parts of that argument are or are not present at all. […] Once the presence of the required connections has been demonstrated, however, a further set of questions can then be raised. These further questions have to do with the strength of the connections on which the argument depend. Granted that we have constructed an argument that is sound enough, so far as it goes, how much weight will it bear? (Op.cit., 81)

Thus, soundness is a qualitative concept – an argument is either (sufficiently) correct or it is not – whereas the concept of strength is comparative - an argument is more or less strong. First, I will present and analyse a simplified version of Toulmin model, which corresponds to the first level of analysis, and then an extended version, which corresponds to the second level of analysis.

## 5. TOULMIN SOUNDNESS MODEL (TSM)[1]

Data are functionally similar to premises and claim to conclusion, so warrant is the main novelty of Toulmin Soundness Model. Of all that Toulmin says about warrants in 'The layout of an argument: data and warrants' (Toulmin, 2003, pp. 91-93), the following claims are especially important for my purposes:

(a) Warrants are rules or principles, as opposed to data, which are factual information.
(b) Warrants can be expressed tersely as 'If D, then C', or more explicitly and perspicuously, as 'Data such as D entitle one to draw conclusions such as C'.
(c) Warrantsare practical standards or canons by which the merits of arguments are judged.
(d) An argument appeals explicitly to data and claim, while warrant is incidental and explanatory.
(e) Theforce of an argument depends on the type of warrant involved.
(f) Some warrantsauthorise us to to make the step from data to conclusion either tentatively, or else subject to conditions, exceptions, or qualifications.

The second and more careful formulation in (b) makes it clear that the warrant is a generalization of the associated conditional 'If D, then C'. Moreover, the more explicit formulation makes it clear that the warrant permits a certain type of action in certain

[1] At the 10th ISSA I learned from Ryo Hisajima that what I call the 'Toulmin Soundness Model' is known in Japan as the 'triangular model'.

circumstances, and that it is therefore a rule, in the precise sense presupposed in the distinction between generalist and particularistic theories.

Is warrant a part of the argument? By 'part of an argument' can be understood factual information that either determines the identity of the argument or is relevant to its evaluation. Although the logical quality of an argument is determined by its warrant, since warrants are rules, and not statements of fact, adherence to the atomistic principle does not oblige to include it among the parts of an argument. Thus, TSM is compatible with both atomism and holism. However, statements such as "Whether or not an argument is sound depends on whether or not the required connections between the parts of that argument are or are not present at all" (Toulmin, Rieke & Janik, 1984, p. 81) invite an atomistic interpretation of TSM.

Be that as it may, the discussion of whether the warrants are parts of the argument or not is independent of the dispute between generalism and particularism. Toulmin seems to hold the generalist thesis that in every argument there is an implicit warrant.

> From a position at the bedside of a sick patient, the physician may pick up minute signs or pointers on which he or she is justified in relying as clues to what is troubling the patient. Yet the doctor may not be able to relate the meaning of those small signs to any general principle of a sort that might figure in a medical handbook or textbook. In such a situation, it will not be surprising to find the physician saying, "In my experience, that kind of pallor around the temples can mean some sort of viral infection, and in this particular kind of case, I am inclined to think that it does." Just what exact "kind" of pallor and "kind" of case he is pointing to, the physician may not be able to explain any further; to that extent, therefore,
> the argument may be incomplete. (Toulmin, Rieke & Janik, 1984:53; my italics)

If the argument is incomplete because the physician is not able to identify the warrant, it seems that warrant is a part of the argument. Toulmin, Rieke & Janik also say, in the same vein, that "four elements [claim, data, warrant and backing] that can be found in any wholly explicit argument" (1984, p. 25). Thus, Toulmin simplified model is generalist because it makes the possibility of argument dependent on the provision of general rules or principles.

But at the same time, considering warrant as a part of the argument is at odds with the ideas that warrants are [c] practical standards of evaluation and [d] are secondary (incidental). Another reason for not considering warrant as part of the argument is the comparison of an argument to a dish (Toulmin, Rieke & Janik, 1984, p. 47): data would be the ingredients and the warrant would be the recipe used to combine those ingredients into an argument. Obviously, we would not say that the recipe is part of the dish.

## 6. TOULMIN FORCE MODEL (TFM)

Toulmin Force Model incorporates qualifiers, conditions of rebuttal and exceptions to the soundness model. The basic idea of TSM is that the premises and conclusion are connected through a general rule or warrant. The purpose of qualifiers, conditions and exceptions is to describe that connection. Conditions are general assumptions for the application of a warrant that, when not met, give rise to exceptions, while qualifiers are expressions that indicate the force that the warrant confers on the passage from the premises to the conclusion.

In The Uses of Argument (p. 93) and more clearly in An Introduction to Reasoning (p. 96) two reasons are distinguished for which an argument, despite being sound, may not be conclusive:

- Dataand warrant only partially or weakly supporttheclaim.
- Dataand warrant only support the claim under certain conditions.

In the first case, qualifiers such as 'probably' can be used to indicate this, and in the second, qualifiers such as 'presumably'. Although Toulmin relates these two qualifiers to the force of an argument, only the first alludes to a comparative concept, since only 'probably' admits degrees. 'Presumably' indicates that one can assert the conclusion of an argument insofar as there is no reason to suppose that one is dealing with an exceptional case (Toulmin, Rieke & Janik, 1984, p. 98). To indicate that the warrant allows inferring the conclusion from the premises only in the absence of certain circumstances, locutions such as 'unless' or 'provided that' can also be used.

Exceptions have to do with notions such as defeasible argumentation and non-monotonic consequence. A datum D that is a good reason for a conclusion C may cease to be so when an exception E is considered. Expressed logically, one could say that argument D therefore C is valid and argument D and E therefore C is invalid. The admission that arguments can be defeated does not imply that one can speak of more or less strong arguments, which is what the notion of strength of an argument captures. Therefore, 'presumably' is not part of a scale with 'certainly', 'probably', 'possibly', etc.

Applicability of a warrant to a particular case normally depends on a host of unspoken assumptions, conditions, or presuppositions. These presuppositions are factual in nature, and in practice it is impossible to list them exhaustively before encountering the rare exceptions that bring them to light (Toulmin, Rieke & Janik, 1983, p. 100). Sometimes there may be practical reasons, having to do with the characteristics of the audience, the setting, and the purpose of the exchange, for making some of these conditions explicit (1984, p. 99). Such reasons arise when it is suspected that these conditions might not be met in this case, which is an exceptional case. The standard diagram of Toulmin's model of an argument places the exceptions below the qualifier prefixed to the conclusion, marking them with ‘unless’.

Neither conditions nor exceptions are parts of the argument, if by such we understand those elements that determine the identity of the argument. On the one hand, it does not seem to make sense to speak of a definite set of conditions established beforehand. On the other hand, exceptions vary with context, so that the same argument encounters different exceptions in different contexts. Conditions and exceptions are thus relevant factual considerations for criticizing and evaluating the argument, and therefore, if they are not parts of the argument, TFM is holistic.

We can summarize the characteristics of TFM (leaving aside backing) as follows: it is tripartite, and classifies the parts of an argument into data, claim, and warrant; it is holistic, due to of the presence of conditions and exceptions; and it is generalist and makes the possibility of arguing depend on the provision of general rules or principles.

## 7. MODIFIED TOULMIN MODEL (MTM): CONDITIONS OF A REASON

In TFM conditions are general assumptions for the application of a warrant, and exceptions are unusual conditions that prevent application of the warrant in that particular case. The strength of an argument is also closely related to its warrant: "Warrants are of different kinds and may confer different degrees of force on the conclusions they justify" (Toulmin, 2003, p. 93). Finally, the working of modal qualifiers is explained in terms of warrant, since qualifiers make "explicit reference to the degree of strength that our data confer on our assertion by virtue of our warrant..." (Ibid., p. 93). Although the concept of argument strength is comparative, Toulmin says very little about weighting, which he associates with situations in which it is necessary to choose between warrants pointing in different directions (Toulmin, Rieke & Janik, 1983, p. 66).

To transform TFM into a particularistic model of argumentation we need to define conditions and exceptions other than conditions and exceptions to the application of a rule, together with some explanation of the connection of premises to conclusion and of weighing that does not resort to general rules.

Argument strength can be defined without presupposing the existence of a warrant, using the machinery of holism of reasons (Dancy, 2004; Bader, 2017). Holism of reasons maintains that reasons are context dependent. To account for that dependence, Dancy and Bader distinguish three roles that a consideration can play in constituting a reason, or three forms of relevance, as Dancy puts it. A consideration may favor a claim, it may make or prevent another consideration from doing so, or it may increase or decrease the intensity of the support that one consideration lends to another (Dancy, 2004, p. 42).

The conditions of a reason are circumstances on which it depends whether a consideration is a reason for something. If the conditions are satisfied, the source provides a reason for the thesis, and otherwise not. Bader's conditions are closely related to the conditions and exceptions of Toulmin's model. There is, however, an essential difference, since for Toulmin conditions refer to the application of a general principle to a particular case, and in Bader's case they do not. This is crucial for the construction of a particularistic version of Toulmin's argument model.

Finally, modifiers are considerations that increase or decrease the weight of a reason for something, without being reasons in themselves for that something. Modifiers come into play when comparing, implicitly or explicitly, the strength of two arguments, and that "increased weight" should be understood in that context. This account of modifiers connects them to what Lord & Maguire (2016, pp. 18-19) call the "higher-order reasons view." The idea is that one argument has more force than another if there is a strong argument to conclude it; that is:

> Argument $A_1$ is stronger than argument $A_2$ if there is a valid (meta)argument that concludes that $A_1$ is stronger than $A_2$ and in the context in which it is being evaluated the circumstances necessary to draw its conclusion are present.

## 8. MODIFIED TOULMIN MODEL (MTM): PARTICULARISM

So far, I have shown how to define the strength of an argument in terms of conditions and exceptions without presupposing that the argument relies on a general rule that serves as a warrant.

Warrants are general rules or principles that answer the question, referring to a premise-conclusion sequence, "How do you get there?". A particularistic theory of argument must show that one can answer that question without appealing to a general rule. This does not require denying the existence of general rules that allow one to go from the premises to the conclusion, but only denying that they are essential for argument.

Analogy is a mechanism of the type required, since to justify the passage from the premises to the conclusion one can resort to a comparison with other arguments (for a detailed account, see Alhambra 2023). By "argumentative analogy" I mean the following: Two arguments 'A therefore B' and 'C therefore D' are analogous if and only if the relation A- B is like the relation C-D.

If two arguments are analogous the relation between the premises and the conclusion in one and the other is similar. Similarity of relationship makes it possible to answer the question "How do you get there?" by pointing out an analogous argument. Such comparisons of two arguments do not involve any general principle. Of course, for the generalist the analogy is a means of drawing attention to the implicit warrant of analogans, which would also be, mutatis mutandis, that of analogandum. I think that it is just the other way around: the sense of the similarity of reasons or arguments is prior to the construction of general rules or principles of inference. Two arguments are not analogous because they are arguments from authority, but they are arguments from authority because they are analogous.

Summing up, Toulmin Force Model is holistic because of the presence of conditions and exceptions, and generalist because the definition of 'condition' (as well as the definition of 'argument strength') presupposes that every argument involves the application of a general rule that connects the premises with the conclusion. To move from generalism to particularism, MTM adopts the definitions of conditions and modifier of a reason from holism of reasons and construes analogy as an answer to the question "How do you get there?".

## 9. CONCLUSION

Logical evaluation of arguments in holistic models is contextual whereas in atomistic models it starts from a prior decontextualization. Levi (1995), among others, considers that such decontextualization is proper to logical analysis, while Wenzel prefers to say that "logical evaluation requires the re-situation of an argument in a context in which it can be evaluated with respect to form, substance and function" (2006, p. 20). If I have been successful, I have shown that the decontextualization of logical evaluation depends on certain assumptions and is only characteristic of some theories of argument.

The question of whether the connection between premises and conclusion is always established by applying some general rule or principle differentiates generalist theories from particularistic theories of arguments. Generalism is the thesis that arguing involves

invoking general rules that specify what kind of conclusions can be drawn from what kind of data, whereas particularism is the thesis that one can argue without appealing to such general rules.

I have illustrated each of the four possible combinations with a theory of argument, as shown in the table below.

| Model | Atomistic/holistic | Generalist/particularistic | Parts/Other assumptions |
|---|---|---|---|
| Premises-conclusion | Atomistic | Particularistic | Premises-conclusion/ - |
| Simplified Toulmin | Atomistic | Generalist | Premises-conclusion-warrant/- |
| Extended Toulmin | Holistic | Generalist | Premises-conclusion-warrant/conditions |
| Modified Toulmin | Holistic | Particularistic | Premises-conclusion/warrant, conditions, modifiers |

Once classification of argument models is available, the next objectives should be to refine it and to study the advantages and disadvantages of each type of argument theory.

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