A Classification System for Arguments

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1. Introduction

In what follows, we outline our view that an argument is a proposition that represents a fact as both conveying some other fact and as doing so wholly. Further, in light of our conception of arguments, we outline the view that (roughly) two arguments are of the same type if and only if they represent the same relation of conveyance and do so in the same way. We then proceed to present a classification system for arguments on the basis of this conception of argument types. Finally, in order to clarify our classification system we offer a substantial number of examples of actual arguments that are analysed in accordance with our classification system. Each of these arguments is accompanied by a short explanation of our analysis of it. Hopefully, our classification system, along with the arguments analysed in accordance with it, will serve as a tool for researchers, including research students, working either in argumentation or in the AI fields of natural language processing.

2. Arguments, propositions and relations of conveyance

We begin by addressing the question, "What is an argument?" while stipulating that 'argument' here picks out a certain class of purely semantic entities that are the outcome of the process of reasoning. On the conception of argument we are working with, then, the constituents of arguments are taken to include propositions (e.g. the proposition that the table is brown and the proposition that windows are often made of glass), that is to say the contents of intentional attitudes (e.g. the attitudes of belief and knowledge). Intuitively, questions and imperatives are sometimes also among the constituents of arguments, but for reasons of simplicity we focus solely upon propositions.

As understood by us, an argument is not only constituted by propositions but is itself a type of proposition. This is plausible since any argument can itself be referred to with an appropriate 'that' clause, and thus be the content of an intentional attitude. For any argument, *R*, we can refer to it as the argument that *R*.[1]

Of course, those propositions that are arguments need not be expressed in a form that shows that they are propositions. For example, they can be expressed using the form 'P. Therefore Q' or as diagrams, or as profiles of dialogue.[2] Thus, the fact that arguments are often not expressed in forms that make explicit that they are propositions is not, in itself, a problem for the view that they are propositions. Rather, it merely reflects the fact that we typically use arguments to draw a

[1] The idea that arguments are propositions is an old one. See, for example, B. Bosanquet's related conception of arguments as a species of judgment (1888, pp.1-2).

[2] See E. C. W. Krabbe's "Profiles of Dialogue" (1999).

conclusion, or to show how a conclusion is drawn, and that their being propositions need not be made explicit in doing so.

What type of proposition is an argument? A proposition is an argument if and only if it consists (just) in a representation of one fact as conveying some other fact and as wholly doing so. We will say that one fact conveys another if and only if, in the circumstances, it necessitates or makes liable the obtaining of the other. We will say that a fact wholly conveys another if and only if all of its constituent facts play a part in conveying the other. As to facts themselves, they are simply identified with what true propositions represent.[3]

The idea that one fact conveys another has been explicated in terms 'necessitating' and 'making liable'. In order to get to grips with these terms note, to begin with, that if, in circumstances *C*, fact *A* necessitates fact *B*, then, in circumstances *C*, *A*'s obtaining is not possible without *B*'s obtaining. As to the term 'making liable', note that, if, in circumstances *C*, fact *A* makes fact *B* liable, then, in circumstances *C*, *A*'s obtaining makes *B*'s obtaining likely.[4]

When one fact conveys another it does so via the obtaining of some relation of conveyance between itself and the fact it conveys, or via the obtaining of some relation of conveyance between its constituents and the constituents of the fact it conveys. A relation of conveyance is thus any relation in virtue of which, in the appropriate circumstances, one fact necessitates or makes it liable that another will obtain. Relations of conveyance include, among many others, fact *x*'s causing fact *y*, particular *x*'s being a member of class *y*, particular *x*'s being a species of the genus *y* and fact *x's* constituting fact *y*. On our view, then, each of these relations can be used in constructing arguments.

Consider, by way of illustration, a case in which the causal relation is operative: in the circumstances, the fact that the US military attacked Iraq caused the fall of Saddam's regime. Thus, in the circumstances, and via or in virtue of the obtaining of a causal relation, the fact that the US military attacked Iraq necessitated, or made it liable that, Saddam's regime fell. Further, given our explication of 'necessitates' and 'makes liable', this means that, in the circumstances, and via the obtaining of a causal relation, the fact that actions of the US military made the survival of Saddam's regime impossible, or, if one allows that causation is not deterministic, made the destruction of Saddam's regime likely.

Using the causal relation and the above statements about Saddam's regime, we can construct the following simple argument:

> (1) Saddam's regime fell, because the US military attacked Iraq and if the US military were to attack Iraq, Saddam's regime would fall.

In (1), the fact that the US military attacked Iraq is represented as conveying, via the causal relation, the fact that Saddam's regime fell. That the relation of conveyance represented is the causal relation is implicit in the subjunctive conditional 'if the US military were to attack Iraq, Saddam's regime would fall.'

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[3] Notice that the fact that some proposition represents one fact as conveying another does not imply that these facts obtain.

[4] The term 'likely' should not, in the present context, be thought of as denoting some form of subjective probability, but rather as denoting some form of frequency probability.

3. Argument Types

We will further illustrate out conception of arguments in the many examples to be given below. Let us, however, now turn to our view of what constitutes an argument type and of how we aim to classify arguments in light of our view of what constitutes an argument type. To begin with, let us outline a criterion of identity for argument types, that is to say a criterion for determining when different arguments are of the same type. Our suggestion about what an argument is will help here. An argument, we have suggested, is a representation of a fact as conveying some other fact and as doing so wholly. Now, it is further suggested, different arguments are of the same type if and only if (a) the relation of conveyance they represent is the same relation of conveyance, and (b) the relation of conveyance they represent is represented as ordering the argument's conveying and conveyed facts in the same way.

Returning to example (1) should help to clarify our view of what constitutes an argument type. In (1) the relation of conveyance represented is the causal relation. Thus, (1) can be correctly classified as a causal argument. However, this classification is only partial as (1) is a certain type of causal argument. (1) not only represents a certain relation of conveyance but represents it as ordering certain facts so that one is the conveying fact and the other the conveyed fact. Specifically, the cause is represented as the conveying fact and the effect is represented as the conveyed. On our view, then, the argument is not only a causal argument, but a causal argument that proceeds from cause to effect. We will call such arguments, arguments from cause to effect.

Taking the way in which relations of conveyance are represented as ordering facts into consideration is necessary as they may be represented as ordering facts in different ways. Thus, just as there are arguments that proceed from cause to effect, there are also arguments that proceed from effect to cause. Consider the following argument:

> (2) A massive force attacked Iraq, because Saddam's regime fell and if Saddam's regime were to fall, a massive force would have attacked it.

The relation of conveyance represented by both (1) and (2) is the causal relation. Yet, on our view, they are different types of argument because they represent the causal relation as ordering facts in different ways. In (2), unlike in (1), it is the effect that is represented as conveying the cause.

4. Argument Classification

Given our criterion for argument types, we can classify each argument according to its type.[5] For each relation of conveyance and way in which it might order facts, we have a corresponding argument type. We will not, however, enumerate all the relations of conveyance that might relate facts along with all the ways in which these relations might order facts. Rather, we will enumerate a number of relations of conveyance (and ways in which these relations might order facts) that we have found

[5] The classification of arguments according to type is a classification according to the intrinsic properties of arguments. For the motivation behind such a classification see Katzav and Reed (2004).

are particularly useful in classifying a wide variety of arguments that are found in everyday discourse. We will also indicate how these argument types fit into a hierarchy of argument types. For example, we will indicate when one argument is a species of another.

Notice, some arguments can be analysed as sequences of arguments belonging to the types we enumerate. Such arguments are of what might be termed complex types because their type is not given merely by one simple relation of conveyance, but rather by a series of such relations. For example, assume that fact A conveys fact B via the causal relation and that fact B conveys fact C via the class-membership relation. One can envisage a two step argument from A to C, one that represents a relation that consists in a causal relation followed by a class-membership relation. See the sample argument from the constitution of causal laws and the sample argument from the constitution of possibilities for arguments that together form a complex argument.

Notice also that we have tried to develop a classification of relations of conveyance, and a corresponding classification of argument types, that is quite intuitive. Clearly, however, there is room for much dispute as to how relations of conveyance ought to be classified.

5. Explanation of the classification system

A relation of conveyance, and hence an argument, need not be merely a member of a single genus. Rather, relations of conveyance and arguments are classified as belonging to up to at least four genera, and thus as being classified along at least up to four dimensions. In our classification system, we have limited ourselves to representing four trees, each tree representing an additional dimension along which relations of conveyance, and hence arguments, are classified. A relation of conveyance that is low on a tree is a species of those relations that are higher on the tree than it and that are encountered when moving down towards the tree's root.

In section 9, we clarify the meaning of some of the terms used to represent relations of conveyance in the classification system. We then offer examples and analyses of arguments that represent the relations of conveyance that correspond to these terms.

Each argument example is accompanied by a general argument scheme to which it conforms. Such schemes take the following form:

(1) Form of argument premise or premises
(2) Form of argument warrant
Conclusion

Typically, we have used the form of a conditional to represent warrants. Moreover, the form of the conditional's antecedent is identical to that of the premise or premises given in the scheme. The form of the conditional's consequent is that of one or more facts conveying (via a specific relation of conveyance) the conveyed facts. Consider, as an example, the argument scheme for arguments from cause to effect:

(1) A

(2) If A, then A causes B
Therefore B

Notice, one might be tempted to use the form ‘A causes B’ to represent warrants in arguments from cause to effect, rather than the form of the conditional used in (2). However, a proposition that conforms to ‘A causes B’ will entail the premise given by the form ‘A’, thus making (1) redundant. It is, in part, in order to avoid such redundancy that we have usually used the conditional form to stand for argument’s warrants in argument schemes.

6. Explanation of diagramming method

Argument diagrams represent one or more premises that, together with a suitable warrant, jointly support a conclusion. The fact that the premises and warrant of an argument *jointly* support its conclusion is shown by an arrow linking the premises and warrant to the conclusion. Premises represent conveying facts. Conclusions represent conveyed facts. Warrants represent (often not explicitly) the relationship between the conveying facts and the conveyed facts, and they usually have the form of conditionals. The classification of an argument, which accompanies each argument diagram, makes explicit which relation of conveyance the warrant represents. Both the premises and the warrants are explicit in the argument representation.

Grey rectangular, or square, boxes of text contain reconstructed text, that is to say text that represents what we assume was intended by the author of the text but which he or she did not make explicit. White rectangular, or square, boxes of text contain unreconstructed text.

A two-way horizontal arrow connecting two boxes symbolises a conflict between the claims made by the text in the boxes. If the text in a box that is connected to another by a two-way arrow is reconstructed, diagonal lines cover the box.

When two arrows that are not linked together point to a single box, each of the arrows belongs to a premise that offers separate support for the claim represented in the box. Thus, each of the arrows in question represents a distinct argument.

7. Warrant reconstruction

Typically, a text that contains an argument will not contain an explicit warrant. Thus, in analysing the argument its warrant needs to be made explicit. The simplest way of doing so is merely to describe the conveying fact in a conditional’s antecedent and the conveyed fact in its consequent. This does not mean that the premises and conclusions should merely be copied into the warrant. Sometimes modifying the way in which the conveying and conveyed facts are represented assists in making clear what the facts in question are and how they are supposed to be related. So too, sometimes it will be plausible (in light of what the text says and in light of an understanding of what the arguer might be committed to) to attribute to the arguer a general claim (e.g. one that describes a law of nature) that links the premises to the conclusion. In such a case, the warrant will not describe the whole conveying fact and its relation to the conveyed fact. Rather, it will describe some feature of the

conveying fact and how it plays a role in bringing about the conveyed fact (for example, see our sample analysis of an argument from causal law and our sample analysis of a class-membership argument).

Notice that, in reconstructing warrants, we have not taken care to recapture the form in which we have represented warrants in our argument schemes since this would often be awkward and unnatural (e.g. it would be unnatural to represent a warrant using the form given to warrants in the scheme for arguments from the constitution of possibility, that is to say the form, 'if A, then A constitutes the fact that it is possible that B').

8. Discussions of argument analyses

The process of reconstructing an argument's warrant and of determining what type of argument it is go together. One should consider the conveying fact and the conveyed fact and ask how they might be related. In doing this, one is both trying to determine what type of argument the argument is and what the argument's warrant is. A familiarity with what types of fact there are and how these might be related should help here. The sample analyses of arguments we offer below should assist in acquiring such a familiarity. Each of these analyses explains why, with respect to some particular argument, we have concluded that it represents a certain relation of conveyance and thus why we have classified it in the way we have.

Notice that, for the sake of simplicity of exposition, our argument analyses often assume the obtaining of the facts described and of certain relations of between these facts. If we were to be more careful, we would have to state only that the arguments we analyse *represent* certain facts *as* bearing certain relations, not that the facts in question do indeed obtain.

9. Terminology

Internal and External Relations:

An internal relation is a relation that holds, and *must* hold, between two things merely in virtue of their intrinsic properties, that is to say merely in virtue of what features they have apart from their relations to other things. Resemblance is, for example, an internal relation. Whether two things do or do not resemble each other depends merely upon their intrinsic properties. By contrast, external relations, such as 'is five meters away from' and other spatial and temporal relations, are relations that hold in virtue of properties over and above the properties of the things they relate. A thing can keep all of its intrinsic properties (it need not change in itself) and yet change relations such as being five meters away.

Kinds:

You know what kind of thing a thing is by answering the question, "What is it?" An electron, for example, is a kind of particle, and a particle is a kind of thing. A human, for example, is a kind of animal, and an animal is a kind of thing.

Properties:

Properties are ways things are. For example, here are some of the properties of a cat, i.e. here are some of the ways a certain cat is: furry, black and timid. A cat is, of

course, an animal. But being an animal is not, as understood here, a property. Rather, it is the kind of thing a cat is.

Relation of Specification:
The relation of specification is the relation between a more universal fact and a less universal fact. For example, being the colour red is a specification of being coloured. Thus, relations of specification include the relation between determinable and determinate (the determinate is a specification of the determinable). So too, the relation between species and genus is a relation of specification (the species is a specific member of the genus).

Notice: a thing of a certain species in some sense includes the genus of which it is a member. For example, being a man includes, in some sense, being an animal. Thus, being a member of a certain species does not constitute being a member of a certain genus [See section on the relation of constitution].

Determinables and Determinates:
Being a determinable of a certain determinate property is a relation between the more general and the more particular, but a relation that is different from that between genus and species. For example, colour is a determinable in relation to red or blue. So too, shape is a determinable relative to triangular shape. However, a particular colour is not a species of colour, nor is a particular shape a species of shape (because colours and shapes do not come in discrete species but rather are part of continua).

Concrete and Abstract Facts:
A concrete fact is one that is located at one or more specific places and times (e.g. the fact that John died is a fact that happened somewhere, at some time; and if it is a fact that it is raining this is also a fact that is somewhere, at some time). Concrete facts are comprised solely of concrete objects, i.e. things that exist in space and time (e.g. physical things, biological things, thoughts and events). An abstract fact is one that is not spatio-temporally located (e.g the fact that it is possible to fly, the fact that it is impossible to fly at faster than the speed of light, the fact that two plus two is four, the fact that the set of numbers is infinite, the fact that one should not murder). Conditional statements of the form ‘if A, then A will cause B’ and ‘A must obtain if B is to obtain’ thus describe abstract facts. Abstract facts include facts involving what is possible, what is impossible, laws of nature and sets of things.

Notice: negative facts, or facts involving what is not the case, can also be concrete facts. For example, if I correctly say, ‘it is not raining’ the fact I am describing is negative and is a fact somewhere, at some time.

Constitution:
One fact may constitute or make another distinct fact be the case. For example, the fact that a certain lump of bronze is moulded in a certain way constitutes the existence of a statue. The relation of constitution seems to be more intimate than the

causal relation. In the case of the bronze statue, for example, the statue could not exist if there were not some lump of bronze that continued to constitute it. And, generally, it seems that constituted facts cannot obtain without some suitable constituting fact obtaining at the same time. By contrast, we intuitively think it is at least possible for an effect of some cause to exist without that cause, or indeed any cause. For example, it is at least possible to envisage someone dying of cancer without any cause. Moreover, effects typically can continue to exist, at least for some time, irrespective of their continuing to have a cause (e.g. one will continue to die of cancer even if one no longer engages in any cancer causing activities). Another difference between causal relations and constitution relations is that causal relations are external relations whereas the constitution relations are internal. For example, it (roughly) suffices to be deliberately and unwillingly dragged in the mud in front of an audience for it to be the case that one is being humiliated. Here the constituting facts (being dragged in certain circumstances) suffice to constitute being humiliated. So the relation is an internal relation. By contrast, smoking does not suffice to make it the case that one has cancer. Cancer is something distinct from smoking, something that smoking brings about *in the appropriate circumstances*, and something that (we can at least imagine) could occur without any cause.

Further examples of constitution include: the fact that he died constitutes the fact that his death ought to be avenged; the fact that the last member of the tribe is a man constitutes the fact that it is not possible to meet a female member of the tribe.

Note: the relation of constitution is, as the examples given illustrate, not merely that of physical constitution, i.e. it is not merely that kind of constitution we find the case of the bronze statue being constituted by a certain lump of bronze. Thus, the relation of constitution occurs between concrete and abstract things, facts that the relation of causation cannot relate. So too, it occurs between concrete objects and normative facts, which are also facts that the relation of causation cannot relate.

Note also that when something constitutes something else, the thing or fact that is constituted fact is distinct from the constituting fact. Thus, being a member of a certain species does not constitute being a member of a certain genus [See section on the relation between species and genus].

Single Causal Relations, and Causal and non-Causal Laws:

Laws of nature consist in the non-accidental correlation of one type of fact with another. A causal law consists in one type of fact's causing another type of fact in the circumstances. Causal laws should be contrasted with single causal connections. Single causal connections relate particular matters of fact on a given occasion rather than types of fact. Examples of commonly assumed causal laws include smoking causes cancer, and long-term pain causes suffering. Examples of single causal connections include John's causing Jack's death, and the man in the room caused everyone to laugh.

Like causal laws, non-causal laws consist in one type of fact's non-accidental correlation with another. Unlike causal laws, the relationship between the types of

fact is not a causal relation. Examples of (putative) non-causal laws include that every change has a cause and that every change has an explanation. These laws may hold in virtue of causal laws, but do not themselves state causal connections.

Both causal and non-causal laws should be contrasted with one type of fact's constituting another type of fact. Consider an example of one type of fact's constituting another type of fact: being dragged unwillingly and deliberately through the mud's constituting being humiliated. While, as with causal laws, this case involves one type of fact's invariably being correlated with another type of fact, the types of fact in question are not separate in the way that the types of facts related in laws are. They are related by internal rather than by external relations (See discussion of the relation of constitution).

Non-Causal Relations

By non-causal relations we mean external relations that are not causal. These relations include spatial relations (and, more generally, topological relations). So too, they include one type of fact's being related to another by a non-causal law (see section on non-causal laws).

Analytical Relations

An analytical relation is any relation that obtains is a relation between propositions or concepts that obtains solely in virtue of their meanings. Thus, relations of implication are analytical relations. So too, the relation of one statement's meaning the same as another is an analytical relation.

Identity

By 'identity' we mean either numerical identity, that is to say two things being the very same thing (e.g. as in John and the man I met yesterday are one and the same man), or qualitative identity, that is to say sameness in properties (e.g. as in the roses are the same colour).

10. Classification of Relations of conveyance

a. A given relation, *R*, is a genus of any one of the relations that follow *R* in the table, have a greater indent than *R* and are before the next relation with an indent that is equal to that of *R*. For example:

R
    R1
    R2
S
    S1

Here, *R1* and *R2* are species of the relation *R*, and *S1* is a species of the relation *S*.

b. Some relations appear twice because they are not symmetrical relations *and* we have found examples in which this fact about them gives rise to different types of argument [See sections 1 and 2 above].

c. The most specific relations of conveyance given in the table below should all be assumed to allow of further specification, though we have not made this explicit.

Tree 1:

Relation of conveyance
Internal relation of conveyance
Relation of specification
Relation of species to genus
Relation of genus to species
Determinable-determinate
Etc.
Relation of constitution
Abstract fact constitution
Constitution of normative facts
Constitution of positive normative facts
Constitution of negative normative facts
Constitution of non-normative abstract facts
Constitution of necessary conditions
Constitution of causal law
Constitution of singular causal conditionals
Constitution of constitution facts
Constitution of Possibility
Constitution of Impossibility
Etc.

Concrete fact constitution
Species/kind instance constitution
Property instance constitution
Property constitution by properties
Property constitution by particulars
Etc.
Constitution of singular causal facts
Relation of a part to a whole
Relation of whole to one of its parts
Etc.
Relation of analyticity
Relation of sameness of meaning
Relation of stipulative definition
Relation of implication
Relation of identity
Relation of qualitative identity
Relation of numerical identity
Etc.
External relation of conveyance
Non-causal dependence
Non-causal law
Conservation
Conserved quantity
Conserved quality
Etc.
Symmetry
Spatial symmetry
Etc.
Nomological incompatibility
Thing location incompatibility
Thing type incompatibility
Etc.
Etc.
Topological structure conveyance
Etc.
Causal dependence
Efficient cause conveyance
Causal law
Singular cause to effect
Singular effect to cause
Common cause
Etc.
Final cause conveyance

Tree 2: A relation is an *n*-place relation, where *n* is some natural number, if it relates *n* entities. This allows us (in cases where, for some specific number *n*, an argument clearly represents a given relation of conveyance as an *n*-place relation) to classify arguments according to how many facts the relation of conveyance they represent relates. This dimension of classification can, of course, be combined with others. Thus, for example, one can envisage classifying an argument as a 2-place argument from causal law because it represents two facts as being related by a causal law.

Tree 2: When a relation of conveyance conveys a certain fact it either **necessitates** or **probabilifies** the conveyed fact. This allows us (in cases where it is clear either that the relation of conveyance that an argument represents is a necessitating one or that the relation an argument represents is a probabilifying one) to classify arguments as **probabilifying conveyance arguments** or as **necessitating conveyance arguments**. Sometimes, of course, arguments will be species of either probabilifying conveyance arguments or of necessitating conveyance arguments.

Notice that some relations of conveyance can be necessitating relations in some circumstances and probabilifying relations in others.

Tree 3: Some relations of conveyance are types of class-membership relations (e.g., if it is a law that Fs are Gs, or if Fs are a species of G, then all Fs will be members of the class of Gs. Thus, both the relations of being a species of a certain genus and of one thing's being related to another by a law of nature are types of class-membership). This allows us to classify arguments either as being class-membership arguments or as not being class-membership arguments. Sometimes, of course, an argument will merely represent the class-membership relation (and not some type of class-membership relation) and will thus merely be a class-membership argument, rather than a type of class-membership argument.

Further, a class-membership argument can be classified according to the type of class it considers (e.g. according to whether the class is a natural or artificial class). Below, we offer a very partial illustration of how this might be done.

Notice, the various types of non-class membership relation are among the relations specified in tree 1. We have not, however, elaborated on which of the relations in tree 1 are types of non-class membership relations. So too, the types of natural-class membership and conventional-class membership are to be found in tree 1, though we have not (beyond a couple of examples) elaborated on which relations in tree 1 are such types.

Non Class-membership
- **Etc.**

Class-membership
- **Natural-class membership**
  - **Species genus**
  - **Causal law**
  - **Etc.**
- **Conventional-class membership**
  - **Legal rule**
  - **Etc.**
- **Etc.**

11. List of Explanations and Examples:

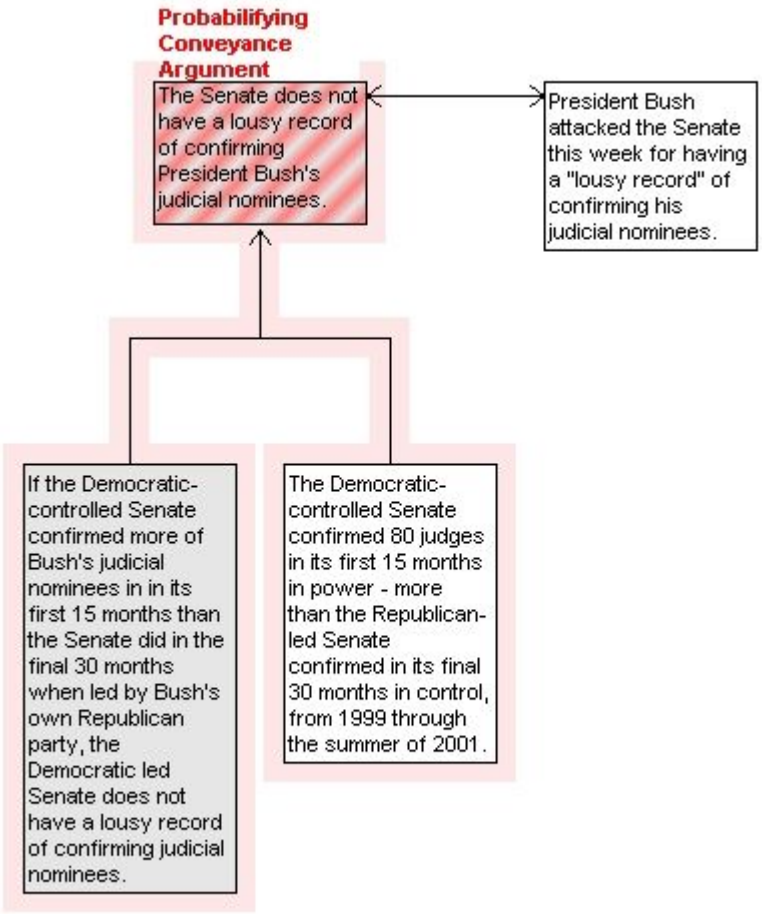
Probabilifying Conveyance Argument:

Argument scheme:

(1) A
(2) If A, then A makes B probable
Therefore B

Analysis of sample argument:

In a speech that appears to have been timed for the upcoming elections, President Bush attacked the Senate this week for having a "lousy record" of confirming his judicial nominees. The facts do not bear this out. The Democratic-controlled Senate confirmed 80 judges in its first 15 months in power - more than the Republican-led Senate confirmed in its final 30 months in control, from 1999 through the summer of 2001 [The New York Times, Editorial/Op-Ed, 'The Real Problem in Making Judges', 1 November 2002].



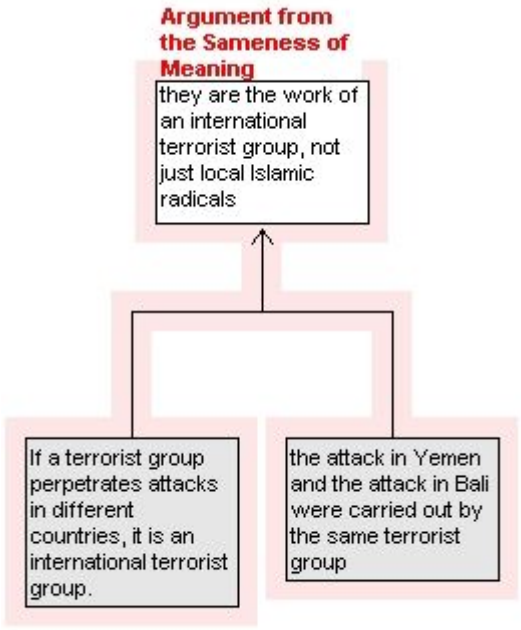
Discussion of analysis:
The probabilifying relation of conveyance is a very abstract relation. It merely states that one fact conveys that another is probable. It does not specify via which mechanism this occurs. For example, it does not specify whether this occurs via one fact's bringing about another fact via a complex chain of causal relations, via one fact's constituting another or via some other combination of relations of conveyance. It is for this reason that we have classified the above argument as an argument that represents the relation of probabilification (and hence called it a 'Probabilifying Conveyance Argument'). We can see that, supposedly, given (a) the fact that the Democratic controlled Senate confirmed more judges than the Republican led Senate in the given periods, it is likely or probable that (b) the Democratic led Senate does not have a lousy record at confirming judges. At the same time, the argument says and suggests nothing more particular about the series of relations of conveyance through which (a) conveys that (b) is likely.

Argument from the Sameness of Meaning
Argument scheme:

(1) A
(2) "A" means the same as "B"
Therefore B.

Analysis of sample argument:

There have been no claims of responsibility for the Bali bombings. But some of the methods used in the blasts indicate that they are the work of an international terrorist group, not just local Islamic radicals. For example, the bomb used in the nightclub attack was reportedly made from a military plastic explosive similar to the one used in the attack on the USS Cole in Yemen two years ago [The Japan Times, Op-Ed, 'Most Crucial Lesson from Bali'. 18 October 2002.].



Discussion of analysis:

The meaning of (a) 'the Attack in Yemen and the attack in Bali were carried out by the same terrorist group' is very plausibly thought to be the same as that of (b) 'they were the work of an international terrorist group.' Thus, it seems that the argument from the truth of (a) to the truth of (b) is made on the grounds that they have the same meaning. Hence the argument is classified as an argument from the sameness of meaning.

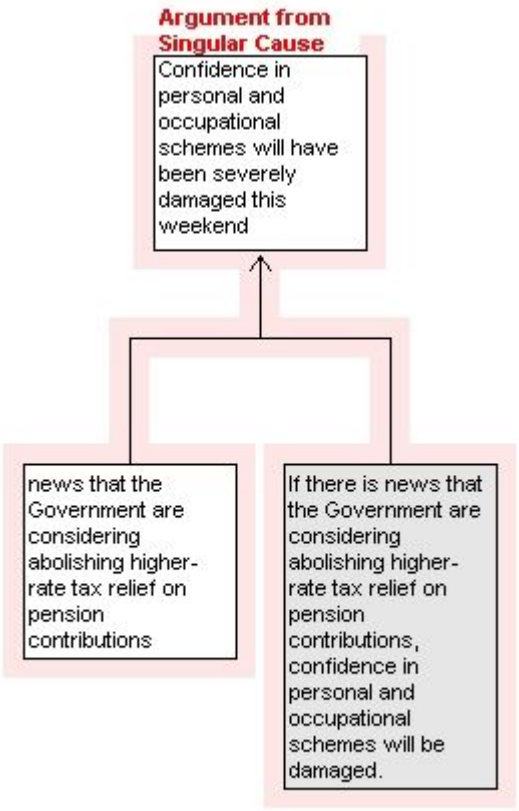
Argument from Singular Cause to Effect

Argument scheme:

(1) If A, then A causes B
(2) A
Therefore B

Analysis of sample argument:

Confidence in personal and occupational schemes will have been severely damaged this weekend by news that the Government are considering abolishing higher-rate tax relief on pension contributions [The United Kingdom Commons Hansard Debate Text for 21 October 2002: Vol. No. 391, Part No. 192, Column 2].

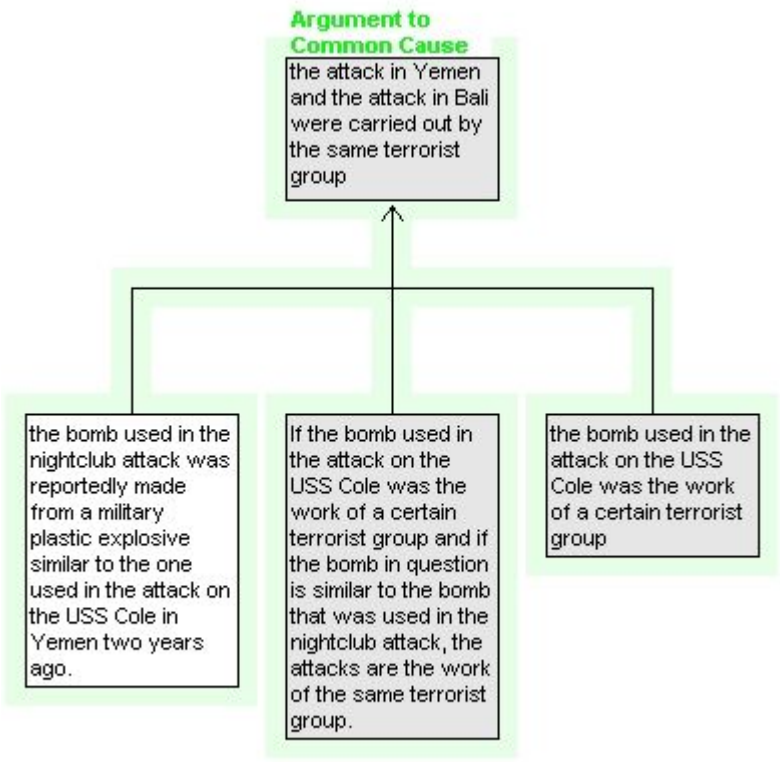


Discussion of analysis:
The relation between the fact described by the premise and that described by the conclusion is, it seems, a causal relation. Moreover, it is the premise that describes a cause and the conclusion the effect. Hence the argument in question is a type of causal argument, one that proceeds from cause to effect rather than from effect to cause. It is, in other words, an argument from singular cause.

Argument to Common Cause
Argument scheme:

(1) If A is similar to B & C caused A, then the similarity between A and B is caused by C's causing both A and B
(2) A is similar to B, and C caused A
Therefore C caused both A and B

Analysis of sample argument:
There have been no claims of responsibility for the Bali bombings. But some of the methods used in the blasts indicate that they are the work of an international terrorist group, not just local Islamic radicals. For example, the bomb used in the nightclub attack was reportedly made from a military plastic explosive similar to the one used in the attack on the USS Cole in Yemen two years ago[The Japan Times, Op-Ed, 'Most Crucial Lesson from Bali,' 18 October 2002].

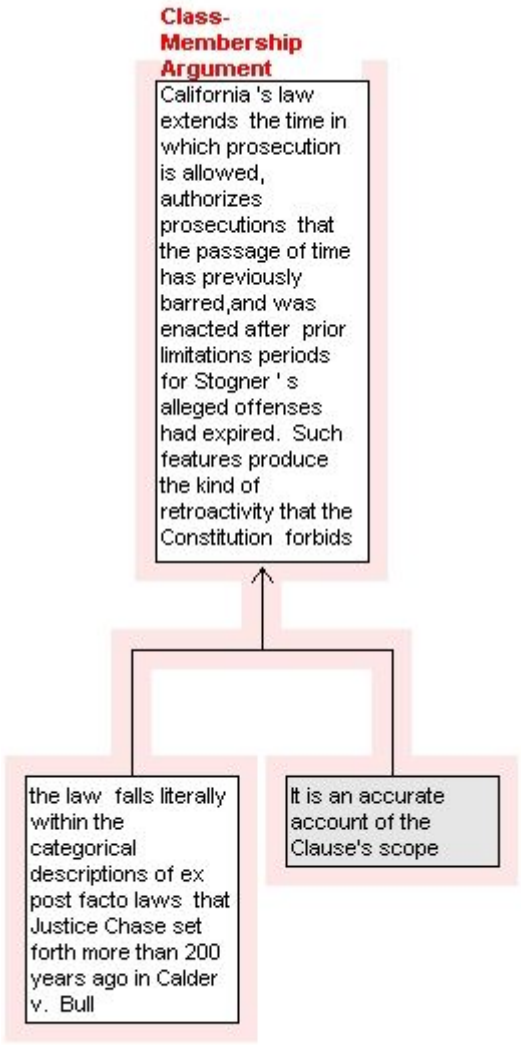


Discussion of analysis:
The similarity between the bombs used in two attacks is used to infer that the same terrorist group carried out the attacks. Thus, the inference is from the similarity of two effects (similar bombs) to the sameness of their cause (the same terrorist group), and it is natural to call such an argument an argument to common cause.

Class-Membership Argument
Argument scheme:

(1) All Fs are members of the class of Gs
(2) A is an F
Therefore A is a G

Analysis of sample argument:
California 's law extends the time in which prosecution is allowed, authorizes prosecutions that the passage of time has previously barred, and was enacted after prior limitations periods for Stogner's alleged offenses had expired. Such features produce the kind of retroactivity that the Constitution forbids. First, the law threatens the kinds of harm that the Clause seeks to avoid, for the Clause protects liberty by preventing governments from enacting statutes with "manifestly unjust and oppressive " retroactive effects. Calder v. Bull, 3 Dall. 386, 391. Second, the law falls literally within the categorical descriptions of ex post facto laws that Justice Chase set forth more than 200 years ago in Calder v. Bull [United States Supreme Court, Stogner v. California, Slip Opinion, Docket No. 01-1757, 26-6-03].



Discussion of analysis:
The warrant, 'it is an accurate account of the Clause's scope' states that anything that is within the Clause's scope according to its account, is a member of the class of things that are within the Clause's scope. Moreover, the warrant does not express any kind of law of nature, or species genus relation. It is merely a statement of class-membership, not a statement of a type of class-membership. Hence the argument is classified as an argument from class-membership.

Notice that the analysed excerpt contains more than a single argument. However, we have focused only on one argument in order to illustrate the nature of class-membership arguments.

As to our justification for assuming that the argument's warrant is a general claim about whatever falls under the Clause's scope it is that this general claim follows immediately from a claim found explicitly elsewhere in the text.

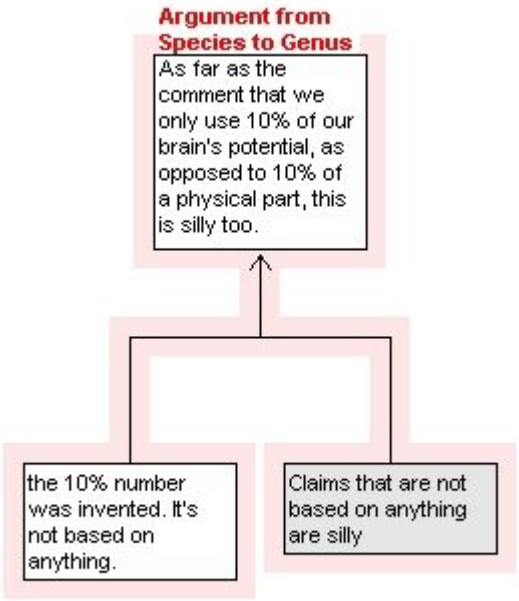
Argument from Species to Genus
Argument scheme:

(1) Gs are a species of F
(2) A is a G

Therefore A is an F

Analysis of sample argument:

As far as the comment that we only use 10% of our brain's potential, as opposed to 10% of a physical part, this is silly too. First of all, the 10% number was invented. It's not based on anything [Outlook India.com, Response, "Healing Words," by Christopher Wanjek, 19-12-2002].



Discussion of analysis:

The argument's warrant, that claims that are not based on anything are silly, states that claims that are not based on anything are a species of silly claim. Moreover, it proceeds from species (i.e. being not based on anything) to genus (i.e. being silly). Hence, the argument is an argument from species to genus. It might not be clear that being not based on anything is a species of silly claim. However, we take it that what is being stated here is, essentially, that the claim is unreasonable. Moreover, it is plausible to classify an argument that is not based on anything as a species of unreasonable claim.

Notice, the above argument is not a species of argument from the constitution of facts (where the supposed constituted fact is the claim's being unreasonable or silly). The 10% comment's being unreasonable is included in the claim that it is not based on anything – since not being based on anything consists in being unreasonable in a certain way [otherwise, not being based on anything would not be a species of being unreasonable]. Thus, the comment's not being based on anything does not constitute its being unreasonable.

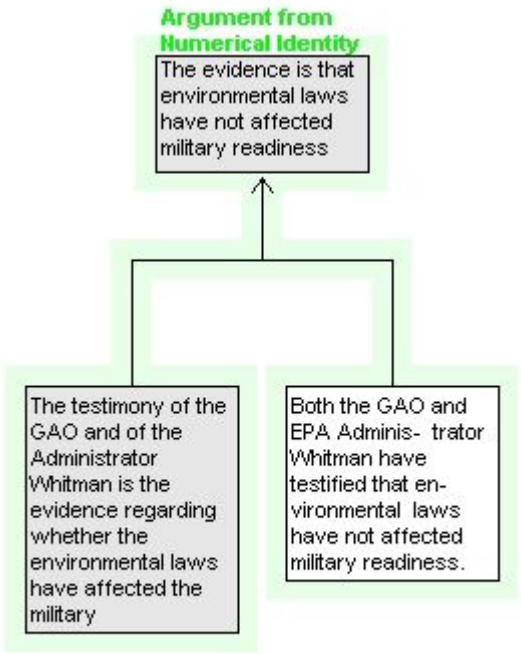
Argument from Numerical Identity

Argument scheme:

(1) A is numerically identical to B
(2) A is F
Therefore B is F

Analysis of sample argument:

The evidence shows there is no reasonable case for such exemptions. The environmental laws already allow the Department of Defense to apply for exemptions on a case-by-case basis if they really need it. Both the GAO and EPA Administrator Whitman have testified that environmental laws have not affected military readiness. There is no evidence that the military has ever been refused an exemption from laws that were necessary and that they sought it. [Congressional Record (US) - 108th Congress, House of Representatives, Tuesday, March 18 2003 - Vol. 149 No. 43, Page H1909].



Discussion of example:
The argument proceeds from the identity claim (a) that the testimony of the GAO and EPA Administrator Whitman is the claim that environmental laws have not affected military readiness, to the identity claim (b) that the evidence is the claim that environmental laws have not affected military readiness. Now, (a) conveys (b) in virtue of a third identity statement, namely that the evidence is identical to the testimony offered by the GAO and the EPA Administrator. Hence, the argument is an argument from numerical identity.

Notice, the fact that the premise and the conclusion themselves are identity statements is not what makes the argument an argument from numerical identity. Rather, it is the fact that what the premise describes conveys what the conclusion describes via the fact that the evidence is identical to the testimony.

Notice also that the premise, 'the evidence is the claim that environmental laws have not affected military readiness,' is not explicit in the text. However, it is an implicit stage within the text's argument since it is used, along with other premises, in order to draw the explicit conclusion that the evidence shows that there is no reasonable case for exemptions of the kind being considered.

Finally, notice that the above argument is not what is typically referred to as an argument from testimony (a type of argument that we would classify as an argument from effect to cause). It does not argue for some fact on the ground that there is testimony to the effect that it obtains.

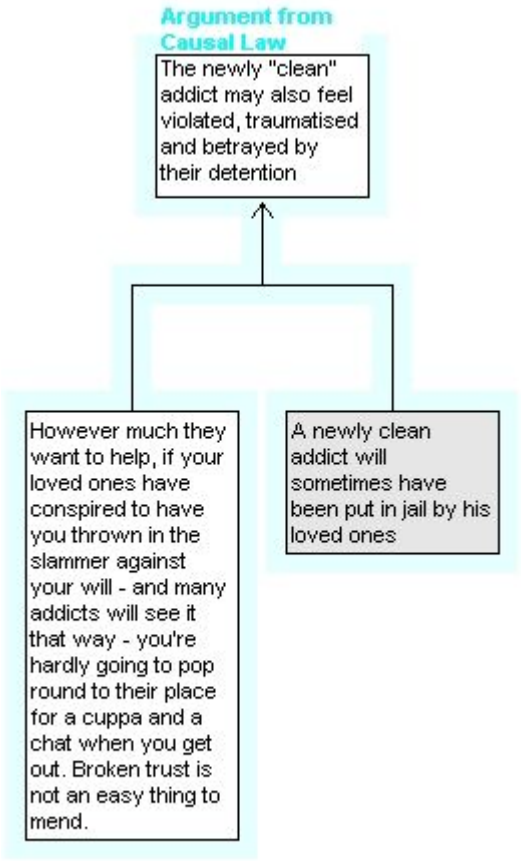
Argument from Causal Law

Argument scheme:

(1) Facts of type F cause facts of type G
(2) A is a fact of type F
Therefore something is a G

Analysis of sample argument:

The newly "clean" addict may also feel violated, traumatised and betrayed by their detention: an excellent emotional recipe for getting straight back on the gear again. Families of drug addicts know that addiction chips away at healthy relationships. When drugs take over as a priority, the user becomes increasingly isolated from those around them - partners, siblings, parents, employers. Even supportive friends can find themselves shut out. Drug buddies are always there, but it becomes very difficult to maintain relationships outside the drug culture. The resulting social isolation often triggers more drug use. But forcibly locking up addicts could do further serious harm to these relationships. However much they want to help, if your loved ones have conspired to have you thrown in the slammer against your will - and many addicts will see it that way - you're hardly going to pop round to their place for a cuppa and a chat when you get out. Broken trust is not an easy thing to mend [The Age (Australia), Opinion, 'Why forced cold turkey is just plain dangerous?' by Meg Mandell, 6th of March 2003].



Discussion of example:

The argument's warrant is, roughly, (a) 'if your loved ones conspire to have you thrown in the slammer against your will, you will feel betrayed.' (a), we take it, is an expression of some kind of psychological law relating conspiring to have a loved one put in jail and that person's feeling betrayed. Thus, the argument is classified as an argument from causal law.

Note: one way to detect the difference between a statement of law (whether causal or otherwise) and a mere statement of class-membership is that the statement of law is intuitively felt not to be merely a statement of accident or of how things merely happen to be. In the present case, for example, given that a loved one is put in jail it is, intuitively, not an accident the person will feel betrayed. It should, in addition, be kept in mind that statements of law need not make all the conditions for their obtaining explicit. In the present case, for example, it is plausible to assume that the arguer accepts that, in some circumstances that are not stated explicitly, incarceration by a loved one is not followed by feelings of betrayal.

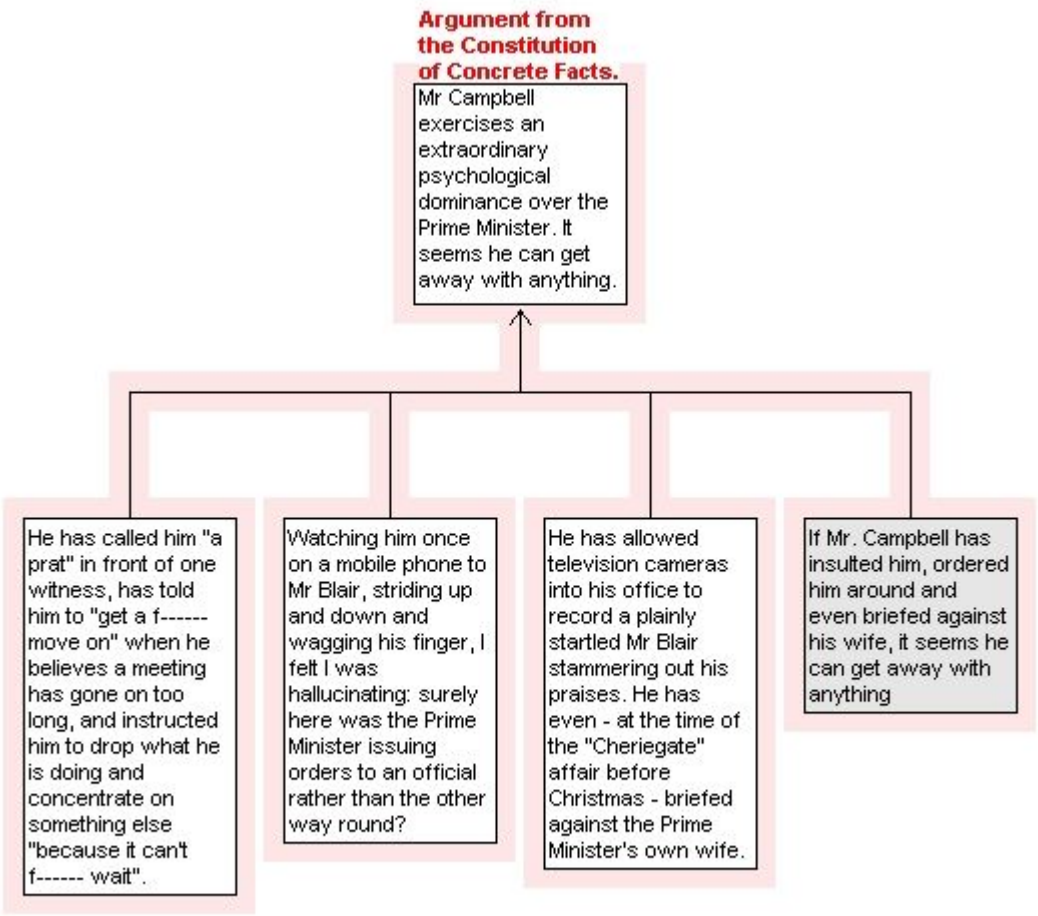
Argument from the Constitution of Concrete Facts

Argument scheme:

(1) A
(2) If A, then A constitutes the concrete fact that B
Therefore B

Analysis of sample argument:

"How can he stop him?" The tone of helplessness says it all. Mr Campbell exercises an extraordinary psychological dominance over the Prime Minister. It seems he can get away with anything. He has called him "a prat" in front of one witness, has told him to "get a f------ move on" when he believes a meeting has gone on too long, and instructed him to drop what he is doing and concentrate on something else "because it can't f------ wait". Watching him once on a mobile phone to Mr Blair, striding up and down and wagging his finger, I felt I was hallucinating: surely here was the Prime Minister issuing orders to an official rather than the other way round? He has allowed television cameras into his office to record a plainly startled Mr Blair stammering out his praises. He has even - at the time of the "Cheriegate" affair before Christmas - briefed against the Prime Minister's own wife. Not since the days of the Wars of the Roses has there been such an over-mighty subject at court [The Daily Telegraph (UK), Opinion, "Who will rid us of the over-mighty Cambell?" by Robert Harris, 21-07-03].



Discussion of analysis:
The conclusion of the above argument is, (a) 'It seems that he can get away with anything.' This is a statement about what seems or appears to be the case. Moreover, the facts described in the argument's premises (perhaps along with additional facts implicitly assumed) constitute or make it the case that the appearance in question obtains. Certainly, there seems to be no question of the facts described in the premises causing the fact described in the conclusion. Finally, the constituted fact described by (a), i.e. that it seems that Campbell can get away with anything, is a concrete fact because it is spatio-temporally located. Thus, the argument is an argument from the constitution of concrete facts.

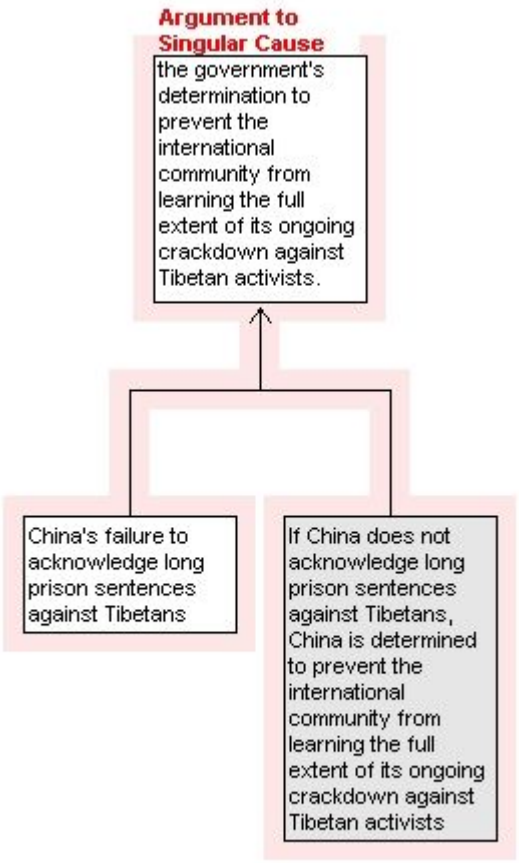
Note: The argument could be further classified as a species of argument from the constitution of concrete facts and not merely as an argument from the constitution of concrete facts. If appearances are correctly classified as objects, it could be classified as an argument from the constitution of (kinds of) things. If, by contrast, appearances are properties of things, it could be classified as an argument from the constitution of properties.

Argument from Effect to Singular Cause
Argument scheme:
(1) A
(2) If A, then A is an effect of B

Therefore B

Analysis of sample argument:

Human Rights Watch said that China's failure to acknowledge long prison sentences against Tibetans demonstrates yet again the government's determination to prevent the international community from learning the full extent of its ongoing crackdown against Tibetan activists[Human Rights Watch, Human Rights News, 'Tibetans Lost in the Chinese Legal System,' July 16 2003].



Discussion of analysis:

The premise, 'China's failure to acknowledge long prison sentences against Tibetans' is, we assume, an elliptical description of (a) the fact that China is failing to acknowledge long prison sentences against Tibetans. So too, the conclusion is, we assume, an elliptical representation of (b) the fact that the Chinese government is determined to prevent the international community from learning the full extent of its ongoing crackdown against Tibetan activists. Now, the fact indicated in the premise, i.e. (a), is plausibly thought to describe an effect of the fact indicated in the conclusion, i.e. (b). Hence, the argument proceeds from effect to cause and is thus classified as an argument from effect to cause.

Notice, we have reconstructed the argument's warrant as one that merely connects the facts mentioned in the premise and in the conclusion rather than as a general claim that connects, say, types of fact. We have done so since the text does not explicitly suggest a general claim, and since there is not one such simple claim that stands out as plausibly attributable to the author.

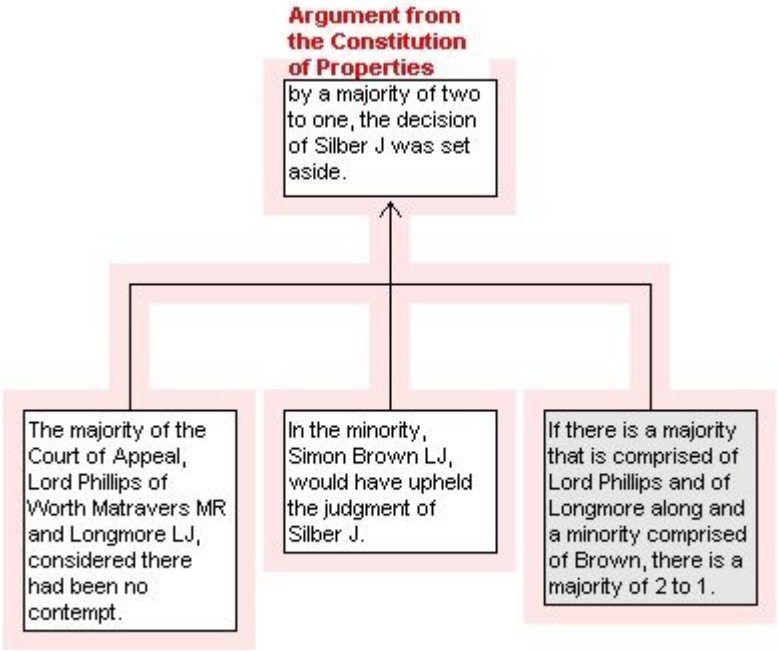
Argument from the Constitution of Properties

Argument scheme:

(1) A
(2) If A, then A constitutes the fact that B is F
Therefore B is F

Analysis of sample argument:

The majority of the Court of Appeal, Lord Phillips of Worth Matravers MR and Longmore LJ, considered there had been no contempt. In the minority, Simon Brown LJ, would have upheld the judgment of Silber J. So, by a majority of two to one, the decision of Silber J was set aside[House of Lords (UK), Judgment, 12-12-02, Her Majesty's Attorney General (Appelant) v. Punch Limited & another (Respondents). Cite: [2002] UKHL 50].



Discussion of analysis:

As in the case of the sample argument from the constitution of concrete facts, the facts described in the premises constitute the concrete fact described in the conclusion. Thus, the argument is an argument from the constitution of concrete facts. However, the argument is a certain type of argument from the constitution of concrete facts. Specifically, since the constituted concrete fact consists in the Court of Appeal's having the property of having set aside the decision of Siber J, the argument is an argument from the constitution of properties (of objects).

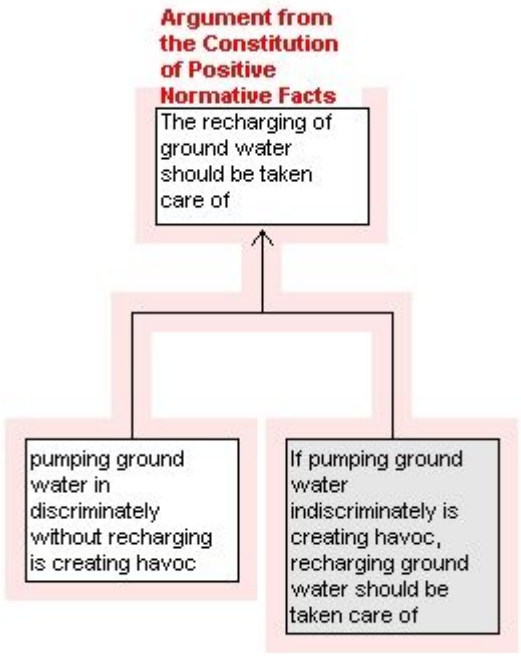
Argument from the Constitution of Positive Normative Facts

Argument scheme:

(1) B
(2) If B, then B constitutes the fact that A ought to be the case
Therefore A ought to be the case

Analysis of sample argument:

The recharging of ground water should be taken care of because pumping ground water in discriminately without recharging is creating havoc. The water level is reducing day by day. When the water table comes down, it affects the drinking water and tubewells get dislodged[Indian Parliament, House of the People, Synopsis of Debates, Thursday, 13 March 2003].

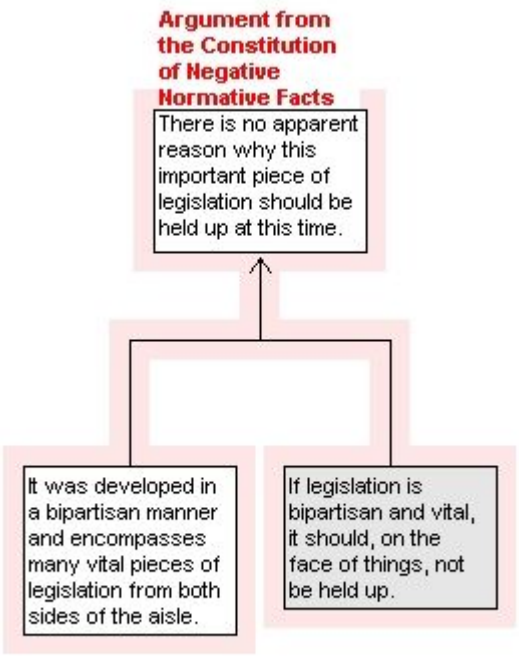


Discussion of analysis:
It seems plausible to suppose that the fact described in the premise, namely that pumping ground water indiscriminately without recharging is creating havoc, constitutes (perhaps along with additional implicitly assumed facts) the fact described in the conclusion, namely the fact that the recharging of ground water should be taken care of. Thus, the argument is an argument from the constitution of normative facts, that is to say facts about what should or should not be the case. Moreover, it is a certain kind of argument from the constitution facts. Specifically, since the conclusion prescribes rather than proscribes a definite action, it is an argument from the constitution of positive facts.

Argument from the Constitution of Negative Normative Facts
Argument scheme:

(1) B
(2) If B, then B constitutes the fact that A should not be the case
Therefore A should not be the case

Analysis of sample argument:
Mr. ROCKEFELLER. Mr. President, I am sincerely disappointed about the placing of an anonymous hold on S. 2043, the ``Veterans Long-Term Care and Medical Programs Enhancement Act of 2002." There is no apparent reason why this important piece of legislation should be held up at this time. It was developed in a bipartisan manner and encompasses many vital pieces of legislation from both sides of the aisle [United States of America Congressional Record, 107th Congress, Senate, Monday October 28 2002, Page S10797].



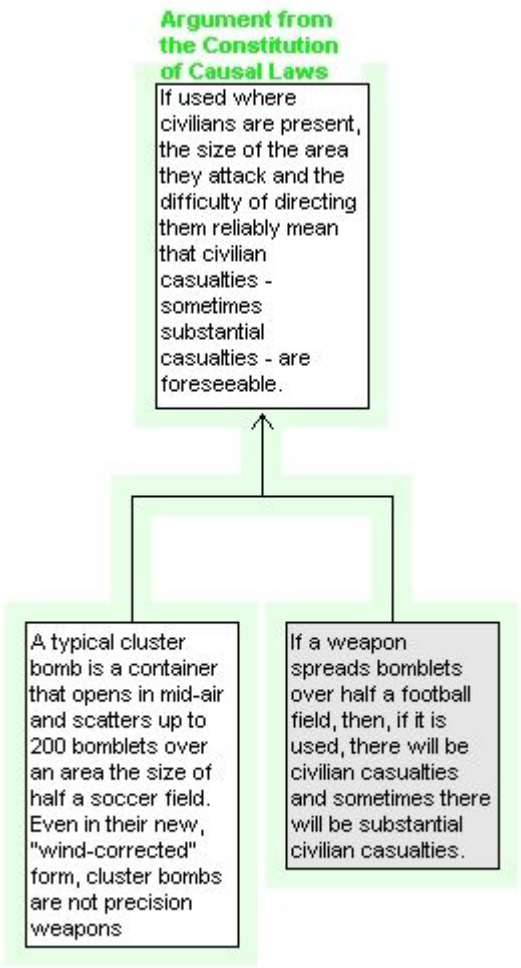
Discussion of analysis:
The analysis of this argument is identical to the analysis of the argument from the constitution of positive facts, with the single difference that the constituted fact described in this argument, that is to say that the legislation should not be held up, is of a negative normative fact rather than a positive normative fact. Hence, the present argument is classified as an argument from the constitution of negative normative facts.

Note: we have assumed that the text in the conclusion does not accurately reflect the speaker's conclusion. The conclusion does not literally state that the legislation should not be held up.

Argument from the Constitution of Causal Laws
Argument scheme:

(1) A
(2) If A, then A constitutes the fact that is a causal law that Fs are Gs
Therefore it is a causal law that Fs are Gs

Analysis of sample argument:
A typical cluster bomb is a container that opens in mid-air and scatters up to 200 bomblets over an area the size of half a soccer field. Even in their new, "wind-corrected" form, cluster bombs are not precision weapons. If used where civilians are present, the size of the area they attack and the difficulty of directing them reliably mean that civilian casualties - sometimes substantial casualties - are foreseeable. A court conceivably could find that the use of cluster bombs in such circumstances is a war crime. Human Rights Watch, Commentary, "Fight the Good Fight," by Kenneth Roth, The Guardian, October 22, 2002].



Discussion of analysis:
The warrant tells us that if a cluster bomb spreads bomblets over half a football field, then, if it is used, there will be civilian casualties and sometimes there will be substantial civilian casualties. It is used to argue from the fact that cluster bombs have a certain ability, i.e. the ability to spread bomblets in a certain way, to the obtaining of a causal law, namely that, given the circumstances, if such bombs are used, there will be civilian, and sometimes substantial civilian, casualties. Moreover, the ability seems, along with implicitly assumed facts, to constitute the causal law. Thus, it is natural to classify the argument as an argument from the constitution of causal laws.

It might be thought that the argument's premise (given in the white box) should be further analysed as an argument that proceeds from the observation that a typical cluster bomb scatters bomblets over an area the size of half a soccer field to the conclusion that even new cluster bombs are hardly precision weapons. However, we have assumed that the new wind corrected cluster bombs are not typical bombs, and thus that the claim that even the new ones are not precision weapons is merely part of the claim that cluster bombs in general (both typical and new) are not precision weapons.

Notice also that the conclusion of this argument is used as a premise in the argument from the constitution of possibilities that is analysed in the next section.

Thus, together, the two arguments form a complex argument with two sub-arguments.

Argument from the Constitution of Possibilities

Argument Scheme:

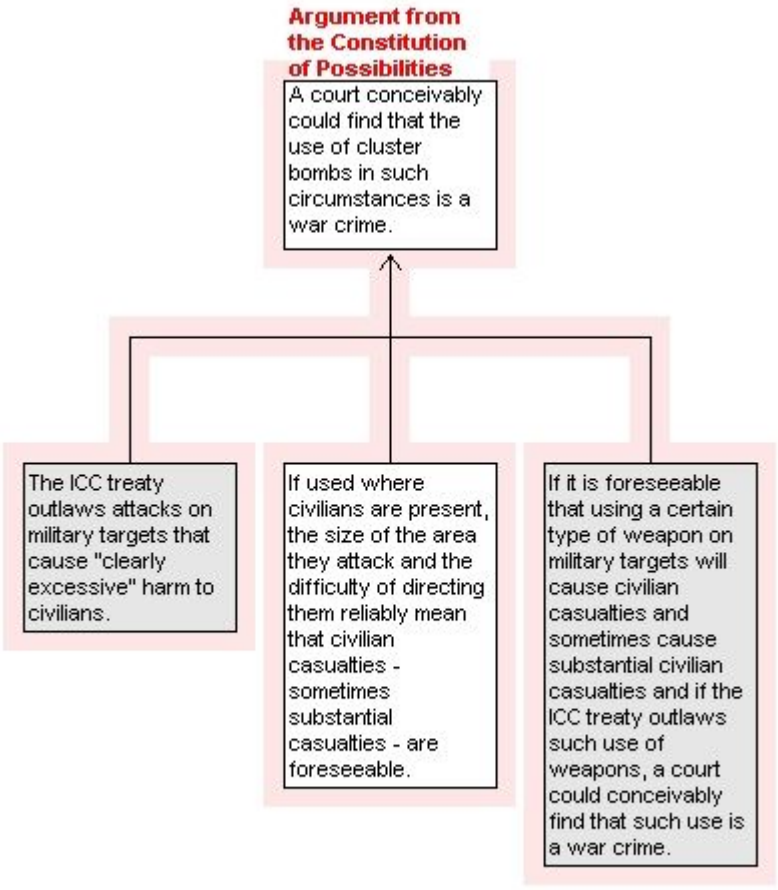
(1) A

(2) If A, then A constitutes the fact that it is possible that B

Therefore it is possible that B

Argument example and analysis:

A typical cluster bomb is a container that opens in mid-air and scatters up to 200 bomblets over an area the size of half a soccer field. Even in their new, "wind-corrected" form, cluster bombs are not precision weapons. If used where civilians are present, the size of the area they attack and the difficulty of directing them reliably mean that civilian casualties - sometimes substantial casualties - are foreseeable. A court conceivably could find that the use of cluster bombs in such circumstances is a war crime. Human Rights Watch, Commentary, “Fight the Good Fight,” by Kenneth Roth, The Guardian, October 22, 2002].



Discussion of analysis:

The argument’s warrant is, ‘If it is foreseeable that using a certain type of weapon on military targets will cause civilian casualties and sometimes cause substantial civilian casualties, and if the ICC treaty outlaws such use of weapons, a court could conceivably find that such use is a war crime.’ Supposedly, the conditions specified

in the warrants antecedent suffice (perhaps along with additional assumed conditions) to make it the case that it is possible for a court to find that the use of cluster bombs in such circumstances is a war crime. Thus, the argument is classified as an argument from the constitution of possibilities.

Notice that we have taken some liberty in interpreting the conclusion as stating that it is possible that the court will make a certain decision, though it in fact merely states that, *conceivably*, it is possible for a court to do so. If one were to insist on sticking to the letter of the argument's conclusion, the constituted fact would be that the court has the property of being able to conceive certain possibilities. The argument would then be classified as an argument from the constitution of properties.

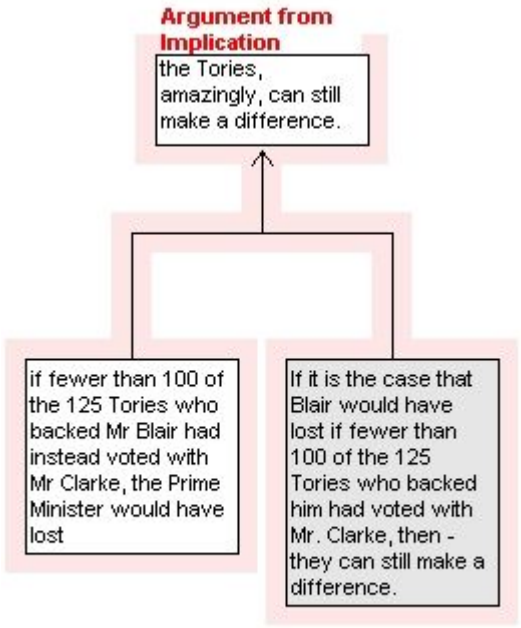
Argument from Implication

Argument Scheme:

(1) A
(2) "A" logically implies "B"
Therefore B

Analysis of Sample Argument:

Look at the figures: 121 Labour MPs, 13 Tories (including Mr Clarke) and 52 Liberal Democrats voted for an amendment declaring the case against Saddam Hussein as yet unproven. A total of 199 MPs voted against early military action, while 393 voted for war. But if fewer than 100 of the 125 Tories who backed Mr Blair had instead voted with Mr Clarke, the Prime Minister would have lost. So the Tories, amazingly, can still make a difference [The Telegraph, Opinion, "A Tory affair with Blair will surely end in tears", by Alice Thomson, 28 February 2003].



Discussion of analysis:

We take it that the argument's premise, roughly that a change in the vote of some of the Tories would have caused the Prime Minister to lose, logically implies the argument's conclusion (so that the argument's warrant is an analytical truth). Thus, the argument is classified as an argument from implication.

Argument from the Constitution of Constitution Facts

Argument scheme:

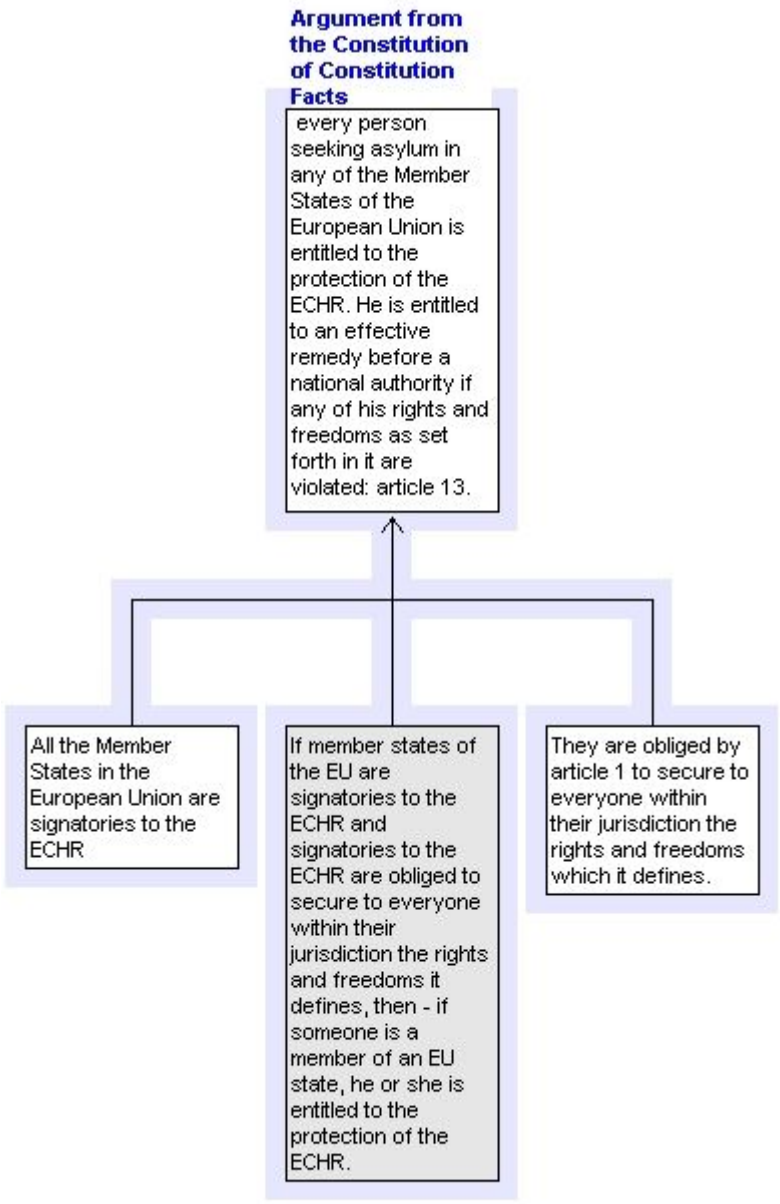
(1) A

(2) If A, then A constitutes the fact that - if B, B constitutes the fact that C

Therefore if B, B constitutes the fact that C

Analysis of sample argument:

All the Member States in the European Union are signatories to the ECHR. They are obliged by article 1 to secure to everyone within their jurisdiction the rights and freedoms which it defines. It follows that every person seeking asylum in any of the Member States of the European Union is entitled to the protection of the ECHR. He is entitled to an effective remedy before a national authority if any of his rights and freedoms as set forth in it are violated: article 13 [House of Lords (UK), Judgments, Regina v. Secretary of State for the Home Department. Ex Parte Thangarasa & Other Action Regina v. Secretary of State for the Home Department Ex Parte Yogathas & One Other Action, 17 October 2002. Cite No. [2002]UKHL36].



Discussion of analysis:
The facts described by the premises, namely the fact that member states of the EU are signatories to the ECHR and the fact that such signatories are obliged by the ECHR, suffice (perhaps along with additionally assumed facts) to constitute or make it the case that anyone who is a member of an EU state is entitled to the protection of the ECHR. Hence, the argument is an argument from the constitution of facts. Further, it is a specific type of argument from the constitution of facts. The constituted fact is described in a conditional form, and this form is itself plausibly thought to describe one fact's constituting another. It tells us that if a person is a member of an EU state, this suffices to make it the case that the person in question is entitled to the protection of the ECHR. Certainly, there is no question of the person's entitlement being caused in any way. Thus, the argument is classified as an argument from the constitution of constitution facts.

Notice that we have assumed that the premise, ‘they are obliged by article 1 to secure to everyone within their jurisdiction the rights and freedoms which it defines,’ does not state an obligation of certain signatories. Rather, we read it merely as reporting that article 1 states that the signatories in question have a certain obligation. Thus, we read it as one of the premises needed to conclude that the obligation in question does indeed obtain.

Argument from the Constitution of Necessary Conditions

Argument Scheme:

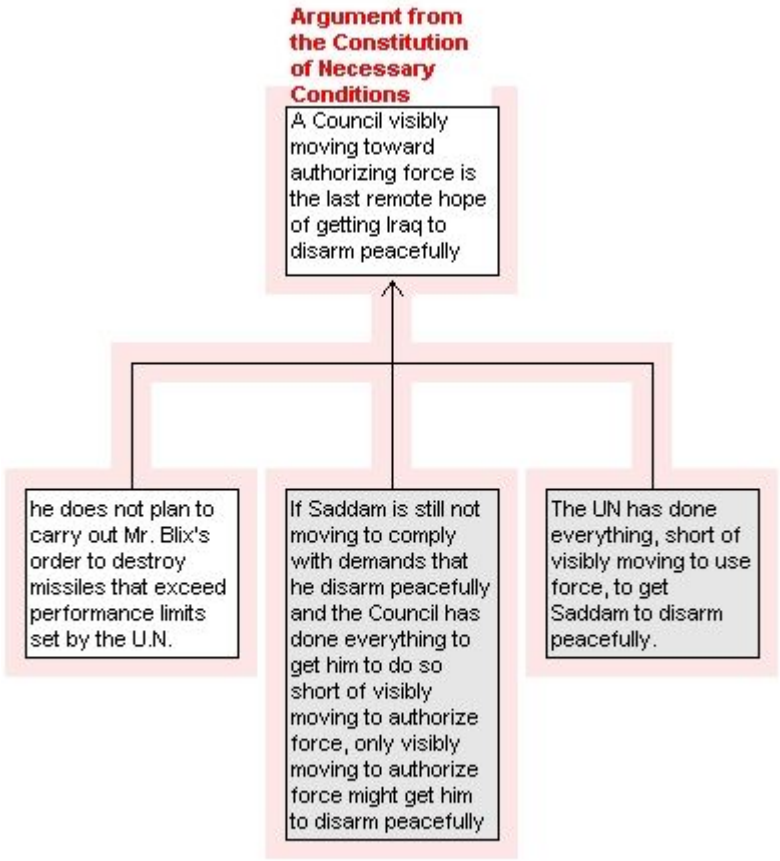
(1) A

(2) If A, then A constitutes the fact that B is a necessary condition for C

Therefore B must obtain if C is to obtain

Argument example and analysis:

A Council visibly moving toward authorizing force is the last remote hope of getting Iraq to disarm peacefully. Saddam Hussein reinforced that point himself yesterday by telling Dan Rather of CBS News that Iraqi missiles do not violate U.N. restrictions. That suggests he does not plan to carry out Mr. Blix's order to destroy missiles that exceed performance limits set by the U.N. [The New York Times, Editorial, "Facing Down Iraq", 25 February 2003].



Discussion of analysis:

The argument’s warrant is, ‘If Saddam is still not moving to comply with demands that he disarm peacefully and the Council has done everything to get him to do so short of visibly moving to authorize force, only visibly moving to authorize force

might get him to disarm peacefully.' The antecedent describes conditions that make it the case that only visibly moving to authorize force might get Saddam to disarm peacefully. Thus, the argument is an argument from the constitution of facts. However, it is a certain type of argument from the constitution of facts. Specifically, since the constituted fact describes what must be the case for there still to be the possibility that Saddam will disarm peacefully, the argument is an argument from the constitution of necessary conditions.

Argument from the Constitution of Singular Causal Conditionals

Argument Scheme**:**

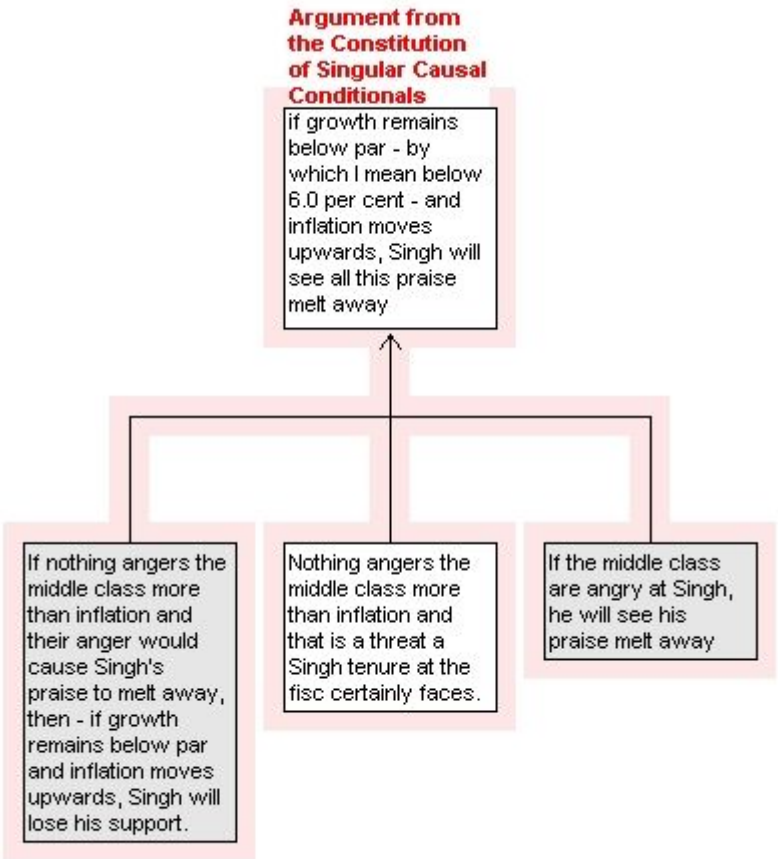
(1) A

(2) If A, then A constitutes the fact that if B, B will cause C

Therefore if B, B will cause C

Argument example and analysis:

This is a good budget, but it is based on a gamble. If the gamble works, Singh can still hope to get that widely coveted prize that eluded Yashwant Sinha for five years, the global Best Finance Minister award. But if growth remains below par - by which I mean below 6.0 per cent - and inflation moves upwards, Singh will see all this praise melt away. Nothing angers the middle class more than inflation and that is a threat a Singh tenure at the fisc certainly faces. It will also dampen demand that Singh so desperately needs to make his strategy click [The Indian Express, Editorials and Columns, "Singhing Praises", by Sanjaya Baru, 03 March 2003].



Discussion of analysis:

The premises, i.e. ‘Nothing angers the middle class more than inflation and that is a threat a Singh tenure at the fisc certainly faces’ and ‘if the middle class are angry at Singh, he will see his praise melt away,’ describe two facts which, together, constitute that fact described in the conclusion, roughly that if inflation moves upwards, Singh will see his popularity melt away. Thus, the argument is an argument from the constitution of facts. Moreover, the conclusion has a conditional form and is plausibly thought of as stating that if growth remains below par and inflation moves upwards, this will cause Singh to see all his praise melt away. Accordingly, the constituted fact seems to be a conditional causal statement, and the argument is classified as an argument from the constitution of singular causal conditionals.

Note that the conclusion is a singular causal conditional because it does not state a law of nature, but merely a single causal connection between two particular facts.

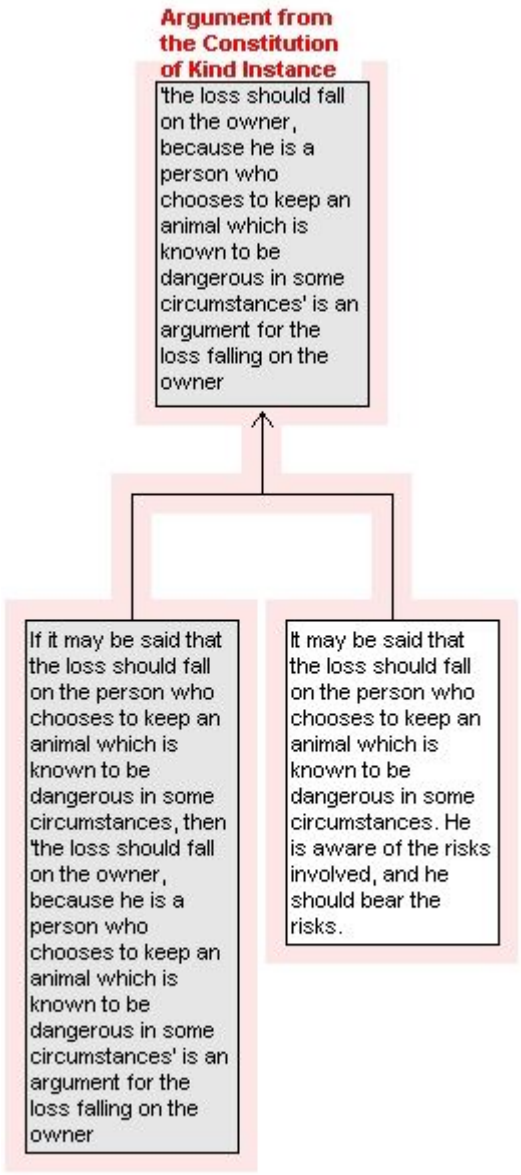
Argument from the Constitution of Kind Instances

Argument Scheme:

(1) A
(2) If A, then A constitutes B’s being a thing of kind F
B is a thing of kind F

Argument example and analysis:

Lest there be any misunderstanding one point should be clarified at the outset. Considered as a matter of social policy, there are arguments in favour of answering this question yes, and arguments in favour of answering no. It may be said that the loss should fall on the person who chooses to keep an animal which is known to be dangerous in some circumstances. He is aware of the risks involved, and he should bear the risks. On the other hand, it can be said that, negligence apart, everyone must take the risks associated with the ordinary characteristics of animals commonly kept in this country. These risks are part of the normal give and take of life in this country[House of Lords, Judgments, Opinions of the Lords of Appeal for Judgment in the Case Mirvahedy (FC) (Respondent) v. Henley and Another (Appelants), 20 March 2003. Ref: [2003]UKHL 16].



Discussion of analysis:

The fact described by the argument's premise, 'it may be said that the loss should fall on the person who chooses to keep an animal which is known to be dangerous in some circumstances. He is aware of the risks involved, and he should bear the risks,' constitutes the fact described in the arguments conclusion, namely that 'the loss should fall on the owner, because he is a person who chooses to keep an animal which is known to be dangerous in some circumstances' is an argument. Thus, the present argument is an argument from the constitution of facts. Moreover, it is a certain kind of argument from the constitution of facts. What the argument asserts is being constituted is a thing of a certain kind, namely an argument, and not merely the property of some already existing thing. Thus, the argument is an argument from the constitution of kind instance.

Notice that the conclusion of the analysed argument is not explicit in the sample text. However, this conclusion is one step in the text's argument for the explicit claim that there are arguments for and against the loss falling on the owner

Notice also that one could classify the above argument as a certain species of argument from the constitution of kind instances. Specifically, since what is constituted is the existence of an argument, one could further classify the above argument as an argument from the constitution of arguments.

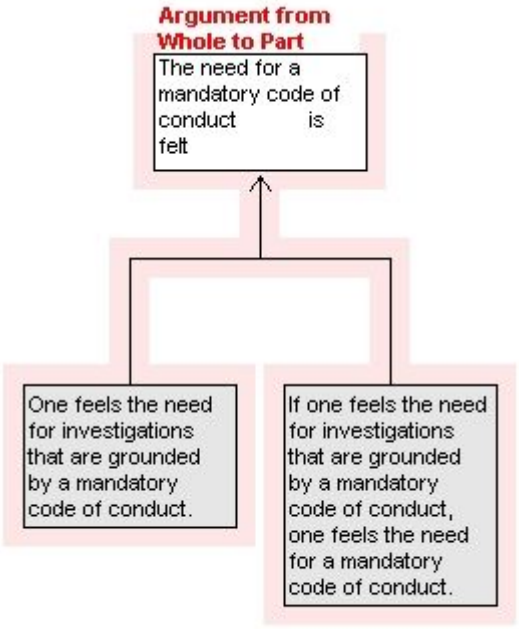
Argument from Whole to Part

Argument Scheme:

(1) A
(2) If A, then B is a part of A
Therefore B

Argument example and analysis:

We also drafted a procedure for dealing with judges who flouted the code. This, too, was accepted. But no statutory base has yet been accorded to the code, despite representations to the government. The need for a mandatory code of conduct is felt when one weighs the latest allegations of judicial misconduct: Three Karnataka HC judges, accompanied by women, get into a brawl in a Mysore wayside eatery. A Rajasthan HC judge and a court staffer offer to settle a litigant's case if she "obliges" them. Three Punjab & Haryana HC judges use their clout to get their nominees selected by Punjab Public Service Commission ex-chief and scam-accused Ravi Sidhu. A drunk Madhya Pradesh HC judge uses foul language in an exclusive club in Bhopal. A Rajasthan HC judge (since transferred) sexually molests a male constable [Outlookindia.com, National, Magazine, Judiciary, "Judgement Day" by Bhavdeep Kang, November 25 2002].



Discussion of analysis:

The argument’s conclusion, namely ‘The need for a mandatory code of conduct is felt,’ describes a part of what the argument’s premise, namely ‘One feels the need

for investigations that are grounded by a mandatory code of conduct,' describes. Thus, the argument is an argument from whole to part.

The argument in the text seems to proceed directly from the fact that certain allegations are weighed to the conclusion that the need for a mandatory code on conduct is felt. Arguably, however, the first thing one feels the need to do with allegations such as the above is to investigate them in accordance with the law. Thus, we have assumed that weighing the allegations of misconduct is not supposed to lead directly to the conclusion that one feels the need for a mandatory code of conduct. Rather, we have assumed that doing so leads first to the conclusion that one feels the need for investigations that are grounded by a mandatory code of conduct. Hence, we have introduced the reconstructed premise, 'One feels the need for investigations that are grounded by a mandatory code of conduct,' and then derived the conclusion of the argument from this premise. In turn, the reconstructed premise is, though we have not shown this here, is supposed to follow from the explicit premise in the text, namely that certain allegations are weighed.

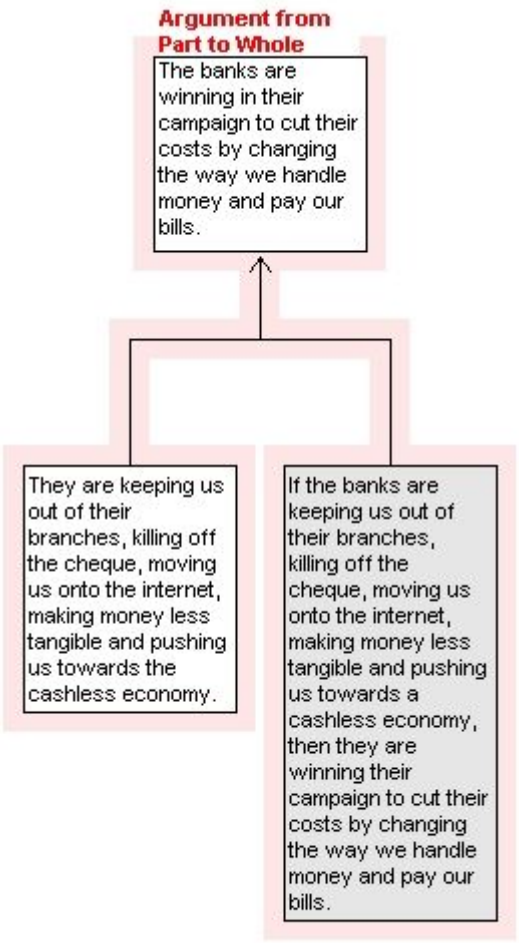
Argument from Part to Whole

Argument Scheme:

(1) A
(2) If A, then A is a part of B
Therefore B

Argument example and analysis:

The banks are winning in their campaign to cut their costs by changing the way we handle money and pay our bills. They are keeping us out of their branches, killing off the cheque, moving us onto the internet, making money less tangible and pushing us towards the cashless economy [The Age (Australia), Opinion, "The banknote is dead: electronic money rules," 23-07-03].



Discussion of analysis:
The fact described in the argument's premise - (a) that they are keeping us out of their branches, killing off the cheque, moving us onto the internet, and so on – is the cause of the fact that (b) the banks' winning their campaign to cut costs. But the conclusion is not just (b). Rather, it is that (a) is causing (b). In other words, the argument is from a part of the fact described in the conclusion, i.e. from (a), to a whole that includes (a), i.e. to (a) is causing (b). Hence, the argument is an argument from Part to Whole.

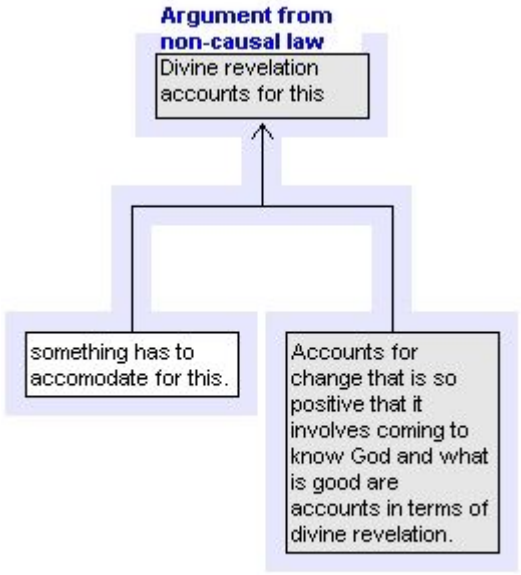
Notice that we have taken the liberty of construing (c), 'changing the way we handle money and pay our bills' as shorthand for (d), 'keeping us out of their branches, killing off the cheque, moving us onto the internet, making money less tangible and pushing us towards a cashless economy.' This allows us to identify the fact described in the premise as part of the fact described in the conclusion. Alternatively, we could have analysed the argument as one that proceeds first from (c) to (d), and only then arguing for the conclusion using an argument from part to whole.

Argument from Non-causal Law
Argument Scheme:
(1) A is an F
(2) It is a non-causal law that Fs are Gs

Therefore A is a G

Argument example and analysis:

So this is my 'Problem of Muhammad', or 'Problem of Islam'. If we were to take a look at Arabia before and after the coming of Muhammad, we would see two completely different societies. Now, something has to accomodate for this. Not even did the blessed Biblical prophets, nor Jesus himself change the behavior of a people so steeped in immorality and idolatry. So, if Muhammad exhibited such outstanding moral characteristics that those who were not close to him would come to believe that he was always a trustworthy and honourable person, and that they would have no reason to disbelieve in his claim of Divine Revelation. But, what is different between Muhammad and other perported figures who claimed Divine Revelation, were those who were closest to him. They as well, believed with all their hearts that this man, whom they slept with, whom they ate with and whom they fought with, was in fact recieving Revelation from GOD. They knew because of his outstanding moral character, and from his trustworthy personality [Christian Apologetics and Research Ministry, Boards, Topics, Islam, Topic #1097: "The Problem of Muhammad" by ElShaddai, 23-04-03].



The argument's warrant, namely 'Accounts for change that is so positive that they involve coming to know God and what is good are accounts in terms of divine revelation,' states that having the property of being an account of a certain type of positive change must invariably be accompanied by having the property of being an account in terms of divine revelation. Thus, it seems, we have an argument that appeals to a law of nature. However, the law in question is not a causal law. It makes no sense to say that being an account of a certain kind of positive change causes being an account in terms of divine revelation. Accordingly, the argument is an argument from non-causal law.

Note: non-causal laws are, like causal laws, external rather than internal relations, and are thus differentiated from constitution facts.

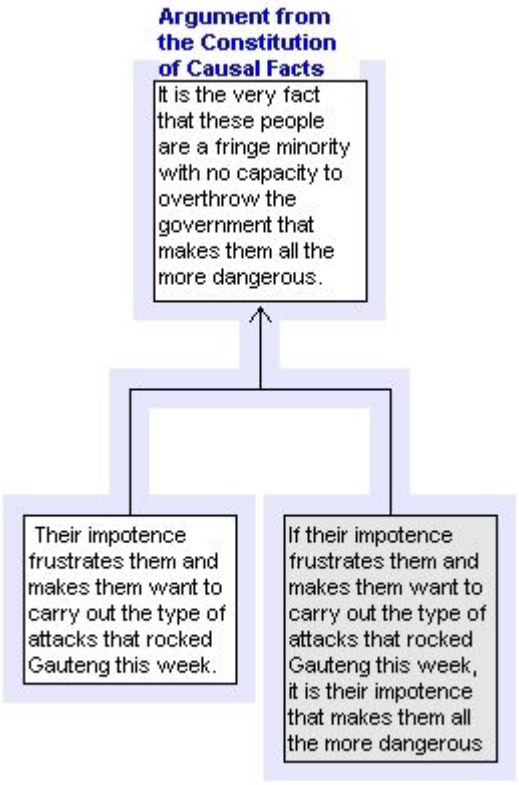
Note: we used material not quoted here to help us to determine the argument's conclusion and warrant. We have not included the material as it is spread out over more than a single bulletin board message.

Argument from the Constitution of Singular Causal Facts

Argument scheme:

(1) C
(2) If C, then C constitutes the fact that A causes B
Therefore A causes B

Argument example and analysis:
It is the very fact that these people are a fringe minority with no capacity to overthrow the government that makes them all the more dangerous. Their impotence frustrates them and makes them want to carry out the type of attacks that rocked Gauteng this week. The worst mistake, therefore, will be to write them off and giggle at their antics [Mail & Guardian Online (South Africa), Editorials, 'Don't Write off the Right Wing', 7 November 2002].



Discussion of analysis:
The argument's premise, 'Their impotence frustrates them and makes them want to carry out the type of attacks that rocked Gauteng this week,' states that their impotence causes them to want to carry out certain attacks. Moreover, this fact suffices to constitute the fact described by the arguments conclusion, namely that their impotence is dangerous (since wanting to carry out the type of attacks that rocked Gauteng is dangerous). Finally, the constituted fact is a causal fact. It tells us that their impotence causes them to be dangerous. Thus, the argument is an argument from the constitution of causal facts.

Note: the constituted fact in this argument is an actual causal fact. By contrast, in arguments from the constitution of singular causal conditionals, the constituted fact states that *if* certain circumstances obtain, then a certain cause will cause a certain effect.

List of Schemes

Argument from Probability
A
If A, then A makes B probable

B

Argument from Sameness of Meaning
A
"A" means the same as "B"

B

Argument from Singular Cause to Effect
A
If A, then A causes B

B

Argument to Common Cause
A is similar to B, C caused A
If A is similar to B and C caused A, then the similarity between A and B is caused by C's causing both A and B

C caused both A and B

Argument from Whole to Part
A
If A, then B is a part of A

B

Argument from Part to Whole
A
If A, then A is a part of B

B

Class-Membership Argument
A is an F
All Fs are members of the class of Gs

A is a G

Argument from Species to Genus
A is a G
Gs are a species of F

A is an F

Argument from Numerical Identity
A is F
A is numerically identical to B

B is F

Argument from Causal Law
A is a fact of type F
Facts of type F cause facts of type G

Something is a G

Argument from the Constitution of Concrete Facts
A
If A, then A constitutes the concrete fact that B

B

Argument from Effect to Singular Cause
A
If A, then A is an effect of B

B

Argument from the Constitution of Properties
A
If A, then A constitutes the fact that B is F

B is F

Argument from the Constitution of Positive Normative Facts
B
If B, then B constitutes the fact that A ought to be the case
---
A ought to be the case

Argument from the Constitution of Causal Laws
A
If A, then A constitutes the fact that it is a causal law that Fs are Gs
---
It is a causal law that Fs are Gs

Argument from Implication
A
“A” logically implies “B”

B

Argument from the Constitution of Negative Normative Facts
B
If B is the case, then B constitutes the fact that A should not be the case
---
A should not be the case

Argument from the Constitution of Constitution Facts
A
If A, then - A constitutes the fact that if B, B constitutes the fact that C

If B, B constitutes the fact that C

Argument from the Constitution of Necessary Conditions
A
If A, then – A constitutes the fact that B is a necessary condition for C

B must obtain if C is to obtain

Argument from the Constitution of Possibilities
A
If A, then A constitutes the fact that it is possible that B

It is possible that B

Argument from the Constitution of Impossibilities
A
If A, then A constitutes the fact that it is not possible that B

It is not possible that B

Argument from the Constitution of Singular Causal Facts
C
If C, then C constitutes the fact that A causes B

A causes B

Argument from the Constitution of Singular Causal Conditionals
A
If A, then - A constitutes the fact that if B, B will cause C

If B, B will cause C

Argument from the Constitution of Kind Instances
A
If A, then A constitutes B's being a thing of kind F

B is a thing of kind F

Argument from Non-Causal Law
A is an F
It is a non-causal law that Fs are Gs

A is a G

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