

Indications of complex argumentation: a commentary

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Analysing the structure of another person's argumentation is a much more difficult task than one might at first imagine. My students often make mistakes at it: their success rates are as low as 55% in identifying the standpoint¹ in a given paragraph, 31% in determining the support relation claimed between two propositions, and 43% in determining whether a given proposition is a main argument or subordinate argument or counter-consideration. And these dismal success rates come *after* instruction and practice with feedback.² Despite these difficulties, there is virtually no theoretical literature in English on indicators of argumentation structure; *The Philosopher's Index*, for example, records only three journal articles and one book in the last 62 years on argumentation structure (Chittleborough and Newman 1993, Freeman 2001, Snoeck Henkemans 2000, Walton 1996), and only the book deals explicitly with indicators. There is more attention to indicators of argumentation structure in the work of linguists, especially those working in the tradition of Anscombe and Ducrot, but little of this work is available in English to theorists of argumentation.

What might we expect from theoretical work on indicators of argument structure? It would be desirable to have a complete enumeration of the words and phrases which can serve in certain contexts to signal to a reader or hearer how an author uses a proposition in an argumentation. For each such word or phrase, we would need to know what argumentative use it indicates, what other indications of discourse structure it can give, and how a reader or hearer can determine for a given text which of these meanings the indicator has. A good test of such a complete enumeration would be its computational implementation in a natural language processor whose output was a representation of the structure of argumentation (if any) in any text on which it operated.

Such a comprehensive theory would have to be developed for one particular natural language,

say, English or French. One can also make comparisons between natural languages—for example, comparisons of the indicator *but* in English and the indicator *mais* in French. Such comparisons might support reform of usage in one of the languages, if for example it turned out to have a confusing ambiguity which the other language avoided, or if on the other hand it lacked a helpful use for an otherwise equivalent indicator.

There is scope for empirical research as well. One might compare the effectiveness of different indicators at securing comprehension of argumentation structure by randomized trials of alternative ways of indicating such structure. Such empirical research could help writers of argumentative texts, e.g. of scholarly and scientific papers, to make themselves more easily understood.

Snoek Henkemans' paper is a contribution to such a potential research programme. She enumerates indicators of the various types of complex argumentation which she recognizes. In what follows, I shall comment on her taxonomy of argumentation and on the accuracy and completeness of the clues she lists for each structure.

Taxonomy of complex argumentation

There is no controversy about the existence of subordinative argumentation; everyone who writes about argumentation structure recognizes that authors sometimes support an argument with further argumentation. This process can of course be reiterated, though not to infinity, and the subordinative argumentation can be horizontally complex.

As to multiple and coordinative argumentation, where an author uses two or more arguments in direct support of the same standpoint, there is a great deal of controversy and confusion, with a significant literature which Snoek Henkemans has carefully summarized in her “state-of-the-art” review in the November 2000 issue of the journal *Argumentation*. I shall make three points, rather

dogmatically, about the appropriate taxonomy.

First, we need three ways in which two or more arguments can directly support the same standpoint, not just the two ways which are recognized in the North American philosophical and textbook literature. The distinction between linked and convergent support is insufficient. We need to distinguish first two or more completely independent pieces of supporting argumentation. Then, within the class in which there is one piece of supporting argumentation with more than one argument, we need to distinguish linked from cumulative support. There is much confusion in the textbooks and the scholarly literature about whether to construe convergent support as independent support or cumulative support; the confusion is due to the failure to have labels for all the possible ways in which more than one argument can directly support the same standpoint. Snoek Henkemans' distinction between multiple and coordinative argumentation, and within coordinative argumentation between cumulative coordinative argumentation and complementary coordinative argumentation, is exactly right.

Second, as with the distinction between induction and deduction, the fundamental distinction concerns how two or more arguments can in fact support a standpoint. Deductive support is a relation in which it is impossible for the supporting arguments to be true and the standpoint false, inductive support one in which it is improbable in the absence of further information that the supporting arguments are true and the standpoint false. It is a matter of dispute whether argumentations can be classified as deductive and inductive; if they are, the basis of classification will be which type of support the author claims or intends or believes the standpoint to receive from the argument(s) or which type of support it is appropriate for a critic to use as the standard for evaluating the inference. Likewise, I claim, the distinction between multiplicity and coordination is fundamentally a distinction between independent support and joint support. Independent support is

a relation in which the standpoint receives sufficient support from each of two or more mutually exclusive subsets of the arguments offered in its support, joint support one in which the standpoint receives sufficient support from the entire set of arguments offered in its support but not from any proper subset of them. It can be a matter of dispute whether and on what basis argumentations can be classified as multiple or coordinate; if they can be, the basis of classification could be what type of support the author claims or intends or believes the standpoint to receive from the argumentation or which type of support it is appropriate for a critic to postulate before evaluating the inference or inferences. The distinction between cumulateness and complementarity is fundamentally a distinction within the relation of joint support between a relation in which each coordinate argument provides some support by itself to the standpoint and one in which each coordinate argument provides no support by itself to the standpoint; alternatively, one may construe the distinction as one between each argument by itself providing support of the same type as the whole set of arguments and each argument by itself providing support of a lower type (Vorobej 1994). As with the previous distinctions, one can dispute whether and on what basis one can classify argumentations as cumulative coordinative and complementary coordinative.

Third, the thesis that argumentation structure reflects anticipated criticism is fundamentally an epistemological explanation of argumentation structure. For the critic whose reactions are anticipated is not an actual or potential interlocutor, but a construct of the author, a “rational critic” whose postulated demands for additional support reflect what is required to resolve rationally a dispute between the author and a hypothetical sceptic who demands a proof of the standpoint. The author of the argumentation will anticipate a demand from such a rational critic for subordinative argumentation if and only if the argument does not merit acceptance without supporting argumentation. And whether an argument merits acceptance is an epistemological matter. The

dialectical construal of argumentation as an attempt to resolve rationally a dispute between two people is a powerful and legitimate approach, but it is in reality an “as if” approach. One might say that it is normatively dialectical rather than empirically dialectical.

The taxonomy of subordinative, multiple and coordinative argumentation needs supplementation in two respects. First, within cumulative coordinative argumentation there should be a recognition of acknowledged arguments against the standpoint, which we might call ‘counter-considerations’. A common indicator of such counter-considerations is the word *although*, as in the following passage:

(1) The greatest beneficiaries from a flat tax are upper-middle income groups and above. Their tax rates plummet the most, and **although** those rates are too high in Canada (especially with a 5-per-cent income-tax surtax), giving them the largest tax break offends the notion that those that can should pay more than those less fortunate.

(from a column by Jeffrey Simpson, *The Globe and Mail*, 2 February 2000, A13)

Second, there needs to be a recognition of counter-argumentation, argumentation directed against another argumentation. A common indicator of such counter-argumentation is the word *but*, as in the following passage:

(2) Canadian peacekeepers in Croatia in the early 1990s experienced unusually high levels of sickness following their tour of duty. A Canadian Forces investigation concluded that an absence of adequate supplies, lack of surgical teams, intensity of operations, and exposure to horrific abuses of human rights “probably” led to an increased incidence of stress casualties ranging from blindness to internal ailments and just about everything in between.

But a Canadian battalion sent for duty in Sarajevo in 1992 had similar

experiences. Once in Sarajevo, the Canadians were inadequately supplied. The UN refused to provide surgical teams. The Canadians were constantly subjected to sniper, mortar and heavy-artillery fire on their barracks and defensive positions and they regularly witnessed outrageous human-rights abuses. As well, they suffered serious physical casualties from both land-mine incidents and small-arms fire. To the best of my knowledge that battalion did not suffer one serious stress casualty on return to Canada. (Lewis MacKenzie, retired Canadian major-general, *The Globe and Mail*, 3 February 2000, A19)

Let me turn now to Snoek Henkemans' lists of indicators of complex argumentation. In general, I shall be supplementing her observations rather than disagreeing with them.

Subordinative argumentation

To the three constructions with multiple indicators of argumentation spread over different clauses, one should add the following construction, which is often misinterpreted:

- Standpoint; *for* Subargument, *so that* Main argument.

Here is an example:

(3) The things in the *definition* have got to be one; **for** the definition is a certain single formula and *of*[a] *substance*, **so that** it has got to be the formula of some one thing; **for** “substance means some ‘one’ and some ‘this’”, as we say. (*Met.* 7.12 1037b 25-27, literally translated by Montgomery Furth in Aristotle, *Metaphysics VII-X* (Indianapolis, IN: Hackett, 1985))

Note that in this example the subordinative argumentation is complementary coordinative argumentation, with one argument occurring before the main argument and the other after it.

It should be noted that juxtaposed argumentative indicators which indicate subordinative

argumentation are always argument indicators like *since* or *because* rather than standpoint indicators like *therefore* or *so*. To the list of examples of juxtaposition could be added *for since* and *after all since*, illustrated by the following examples:

(4) It is next required to comprehend it in the given sphere, and to prove that the square on the diameter of the sphere is double of the square on the side of the octahedron. **For, since** the three straight lines LK, KM, KE are equal to one another, **therefore** the semicircle described on LM will also pass through E.
(http://www.dform.com/projects/euclid/13_14/text.html, visited 6 May 2003)

(5) Here is one of my favorite ironies: as English becomes the Lingua Franca of the planet, I'm sure some business and bureaucratic types (in Kansas?) are saying, "Well, shucks, why don't we just wait until all those fer'ners learn English. **After all, since** the Bible is in English, clearly that's the way God meant it."
(<http://www.languagemagazine.com/internetedition/nd99/pg27.html>, visited 6 May 2003)

As Snoek Henkemans points out, juxtaposed argument indicators do not guarantee the presence of subordinative argumentation. One needs to check that the juxtaposed indicators are immediately followed by two clauses, typically separated by a comma, with no conjunction introducing the second clause, except possibly a standpoint indicator (as in example (4) above taken from a geometrical proof). The requirement of two clauses following the juxtaposed indicators rules out the cases of *for because* and *for since* in which the initial *for* is a preposition coming at the end of a clause, as well as cases of *for since*, *because since*, *namely since* and *after all since* in which *since* is a temporal preposition. Also, if one distinguishes causal explanations from arguments, as I do, then one must recognize the possibility that one or both juxtaposed indicators are cause

indicators rather than argument indicators. In my judgement the word *because* in Snoek Henkemans' example (2) is a cause indicator, so this passage is not an example of subordinative argumentation. Her example (3) is a borderline case, in which *because of* could be construed either as a cause indicator or as an argument indicator or as both simultaneously. In her example (4) *because of* is a cause indicator rather than an argument indicator; the lack of financial means explains why "editorials" tried to provide larger volume and circulation, but does not provide evidence that they did. Further, where the second of the two juxtaposed indicators is the word *since*, one must rule out on the basis of propositional content the temporal meaning of *since* as *in the time period following the occasion on which*.

Multiple argumentation

Snoek Henkemans usefully distinguishes four types of indicators of multiple argumentation. These are of course indicators of how the author construes the support relations; as Snoek Henkemans points out, the addressee of the argumentation is at liberty to construe the support relations differently, so that what the protagonist construes as multiple argumentation may be construed by the antagonist as coordinative argumentation. The fundamental question is how the arguments offered in direct support of the standpoint do in fact support it.

Expressions making clear that a reason is by itself sufficient to render the standpoint acceptable are indicators of multiple argumentation only if they are part of a text in which additional reasons, not governed by the indicator, are offered in support of the standpoint. The expression *if only because*, for example, often introduces an argument which is the sole reason offered in support of the standpoint, as in the following example:

(6) Plus, starting a war would be terrible **if only because** Americans are incapable of hitting a target (I know that bombing the red cross buildings must have been a

mistake - a large red cross can be hard not to notice).

(<http://www.trynova.org/Remember911Board/messages/32.html>, visited 8 May 2003)

The word *plus* indicates that the main clause of this sentence is an additional argument for some standpoint, but the *if only because* clause is the only reason given in support of the proposition that starting a war would be terrible. An indicator of the same type as *if only because* is the phrase *sufficient proof*, as in the following passage:

(7) [16:12] And He commits, in your service, the night and the day, as well as the sun and the moon. Also, the stars are committed by His command. These are **(sufficient) PROOFS** for people who understand.

[16:13] And (He created) for you on earth things of various colors. This is a **(sufficient) PROOF** for people who take heed.

[16:65] GOD sends down from the sky water to revive the land after it had died. This should be **(sufficient) PROOF** for people who hear.

(<http://www.submission.org/miracle/proof3.html>, visited 8 May 2003; the references in square brackets are to the verses of the Koran which are being quoted)

Expressions in Snoek Henkemans' second class appear from a cursory search of the Internet to be very rarely used to indicate multiple argumentation. Words like *anyway* or *anyhow* occur overwhelmingly in non-argumentative contexts. The phrase *even if this were not true, then* is a reliable indicator of multiple argumentation, but it occurred exactly once in the hundreds of millions of pages of text surveyed by the search engine Google, in the following passage:

(8) Indeed, the movie [*Dinosaur*-DH] may be too pretty for its own good. The dinosaurs are so good-looking that they seem almost fake. And **even if this were not true, then** the story is at best a poor excuse to experiment with computer-animated

graphics. This is evident, if nowhere else, in the film's extremely short length.

(http://www.cosmicallyspeaking.com/Stories/Movie_Reviews/dinosaur.html, visited 8 May 2003)

Of the expressions Snoek Henkemans lists as indicating that a reason being introduced is superfluous, *leaving aside that* is often used to introduce a counter-consideration, as in the following passage:

(9) **Leaving aside that** in no way would a linguist consider Ebonics a separate tongue from English, it is still true that ALL of them would see it as a legitimate dialect of English. (<http://www.gridlockmag.com/rumblings/madison.html>, visited 8 May 2003)

Phrases like *needless to say* and *not to mention the fact that* of course only indicate multiple argumentation in the infrequent contexts where they introduce a reason supporting a standpoint immediately after another reason supporting the same standpoint has been given. The following is an example where the phrase *not to mention the fact that* does indicate multiple argumentation:

(10) But Macromedia's apparent suggestion that entirely Flash-based sites should be the norm is concerning. It's hard to imagine navigating the entirety of IBM.com (approx 2.5 million pages from what I read), for example, without the aids of bookmarks and URLs to email. **Not to mention the fact that** external search engines wouldn't index the content (at least not yet). (<http://maxify.com/design/flash-20020311.html>, visited 8 May 2003)

Among expressions indicating that there is more than one reason supporting a standpoint, *also because* is often preceded by the additional indicator *but*, as in the following example:

(11) This week, I set out to find the cheapest possible hire car for a week in Spain.

As all the companies below will point out, a simple price comparison will always be misleading - **not just because** drivers will be offered additional insurance cover when they collect the car, **but also because** these basic quotes may exclude excess-charge waivers, theft protection, fuel, airport surcharges and all kinds of baby, l u g g a g e a n d s k i - r e l a t e d e x t r a s .
(<http://travel.guardian.co.uk/travelsites/story/0,7631,650911,00.html>, visited 9 May 2003)

In this context as elsewhere, the word *because* (or *because of*) is often used to introduce a causal explanation rather than an argument:

(12) The original *Dark Cloud* was a big hit on the PS2, **not only because** it was a great game, **but also because** it was one of the only RPGs out on the PS2 at the time.
(<http://ps2.ign.com/articles/386/386330p1.html>, visited 9 May 2003)

Expressions indicating an enumeration may indicate cumulative coordinative argumentation rather than multiple argumentation, as in the following example:

(13) It also means that you are more likely to get a consistent style throughout your site: **firstly because** less editing means less errors **and secondly because** authors will be less tempted to tinker with bits of the text in order to 'improve' the appearance. (<http://www.city.ac.uk/csd/web/css/css01.html>, visited 9 May 2003)

Thus an enumeration can indicate cumulative coordinative argumentation rather than multiple argumentation even where the standpoint does not indicate a requirement for more than one supporting argument; contrast (13) above with Snoek Henkemans' example (12).

The indicator *further* is the usual translation of Aristotle's Greek word *eti* for indicating an additional independent argument; the *Thesaurus Linguae Graecae* lists 2,749 occurrences of this

word in the surviving corpus of Aristotle's writings, of which many (not all) indicate multiple argumentation.

Cumulative coordinative argumentation

Snoek Henkemans makes a useful distinction, among indicators of cumulative coordinative argumentation, between those which indicate that the reason being introduced is less important, those which indicate that it is more important, and those which do not indicate relative importance. The following is a nice example of the first kind, which also includes an indicator of the second kind not noticed by Snoek Henkemans, *the main reason is*:

(14) I don't like the 'Chinese ideogram' approach. **The main reason** for this **is** that I don't want to confuse people into thinking that we are somehow Chinese in origin or purpose. **A secondary reason is** that I don't associate 'simplicity' with something that I can't read. :) **A tertiary reason is** that we have some good alternatives...
(<http://archives.seul.org/seul/edu/Jan-2000/msg00194.html>, visited 9 May 2003)

Like the word *because*, the word *reason* can be used to indicate a cause rather than an argument, as in the following example:

(15) Among women executives who are not comfortable with investing, 46% cite a lack of understanding as their primary reason. **A secondary reason is** their lack of time (18%) and **a third reason is** that their spouse manages the finances (14%).
(<http://www.womenandco.com/womenandco/homepage/press2.htm>, visited 9 May 2003)

The phrase *the more so since* is often used to indicate an intensification of a preceding argument, rather than a separate and more important argument, as in the following example:

(16) When examined over time, the data show that in Germany the growth in

productivity of the natural input factors is clearly slowing down - **all the more so since** for most indicators efficiency rises in the 1990s were to a large extent influenced by special effects caused by German unification.
(<http://www.destatis.de/presse/englisch/pm2000/p3710112.htm>, visited 9 May 2003)

Like *because* and *the reason is that*, the word *since* can indicate a cause, as in the following example:

(17) We felt very nice and snug, **the more so since** it was so chilly out of doors; indeed out of bed-clothes too, seeing that there was no fire in the room.
(http://www.princeton.edu/~batke/moby/moby_011.html, visited 9 May 2003)

The indicator *more importantly* can also indicate a more important cause, rather than a more weighty supporting argument, as in the following example:

(18) We clearly benefited because we could offer the performance, service and support hotels are seeking. **More importantly**, we succeeded because of the intense focus we place on driving unit growth in challenging times.
(http://media.corporate-ir.net/media_files/nys/chh/reports/2001/ch2001ar01.html, visited 9 May 2003)

The inclusion of *even* as an indicator of an additional more important reason in cumulative coordinative argumentation is puzzling: a search on the Internet of several dozen uses of *even* failed to turn up a single example where *even* was used to introduce an additional reason. Such uses did appear, however, when *even* prefixed the indicator *more importantly*.

(19) The best housing that I have found in the past five years and taken on more than 1,500 dives is the thermoplastic housing by Ikelite. In my opinion, they offer the best value for the money; but **even more importantly**, I have found the customer service and response from the company, and owner Ike Brigham, to be of the highest caliber.

(<http://japanupdate.com/previous/01/08/21/story18.shtml>, visited 9 May 2003)

However, passage (25) below appears to use the word *even* by itself as an indicator of cumulative coordinative argumentation.

The word *besides* occurs in many non-argumentative contexts as an indicator of an additional fact or factor in a situation. The following is rather rare example of its use to indicate cumulative coordinative argumentation:

(20) Americans, for their part, have a lot to learn about China, too. To the overwhelming majority of the Chinese, this may be the best of times in the last few centuries. Right now, they – understandably — care more about improving their living conditions than gaining the right to protest or print unflattering cartoons of the president of their country. **Besides**, because of the humiliations China suffered at the hands of foreign powers in modern times, both the people and the government do not like to bow down to any outside pressure.

(<http://www.chinatour.com/digest/bridgeinto.htm>, visited 9 May 2003)

As Snoek Henkemans acknowledges in her concluding remarks, the word *besides* can sometimes indicate multiple argumentation, as perhaps in the following example:

(21) **Besides the reasons given above**, this is also important because some languages and scripts need additional markup (e.g. for bidirectional text).

(<http://lists.w3.org/Archives/Public/www-p3p-public-comments/2000Mar/0020.html>, visited 9 May 2003)

The indicator *moreover* seems much more consistently an indicator of cumulative coordinative rather than multiple argumentation, as in the following example:

(22) The use of summary writing as an in-class activity involves the students in a

collaborative exercise in which the teacher plays along with the students. The element of competition, if introduced as a game rather than as a test, stimulates the students to attempt to use their linguistic and analytical abilities to communicate their thoughts and to aim at a clear and precise goal: the one-sentence summary. If a student fails to achieve the goal, it is only a game. **Moreover**, the process of rewriting can take place many times because each draft is only one sentence long, and two or three revisions can be done in one class period.

(<http://iteslj.org/Techniques/Greaney-Writing.html>, visited 9 May 2003)

In certain contexts, the word *but* indicates cumulative coordinative argumentation, as in the following passage:

(23) The force of the argument for vegetarianism is cumulative, resting not just on animal suffering and death, **but** on individual human health, world hunger, social injustice, attitudes toward women and other considerations. (Angus Taylor, *The Globe and Mail*, 29 January 2000, D5)

As indicated elsewhere in this commentary, the word *but* can also indicate counter-argumentation and complementary coordinative argumentation.

Complementary coordinative argumentation

Snoek Henkemans' dialectical characterization of complementary coordinative argumentation can be given the following equivalent epistemological description: two or more arguments provide complementary coordinative support for a standpoint if one of them by itself is insufficient to justify the standpoint but the two of them together are sufficient. In addition to the indicators of complementary coordinative argumentation which she mentions, the word *but* sometimes indicates such support, as in the following passage:

(24) Sufferers from Asperger's syndrome are generally able to take in enormous amounts of information at once, yet exhibit a lessened ability to process sequential data. During his career, Mr. Gould excelled at the polyphonic music of Bach, **but** his later interpretations of Mozart and Beethoven (music that evolves in a more sequential manner) were slammed by critics. (*The Globe and Mail*, 1 February 2000, A1 & 6)

This passage is part of a lengthy argumentation in support of the standpoint that the virtuoso pianist Glenn Gould suffered from the neurological disorder known as Asperger's syndrome. The overall structure is one of cumulative coordinative support. But each piece of accumulated evidence is itself complex, consisting of the mention of a symptom of Asperger's syndrome together with a claim that Gould exhibited this symptom; the structure within each such complex is one of complementary coordinative support. Another complex component of the overall argumentation exhibits the use of the word *even* to indicate cumulative coordinative support:

(25) **Even** his musical genius, which has inspired a ballet, a movie and two plays, fit the bill. According to the official diagnostic criteria for the syndrome, many people with Asperger's exhibit an exceptional skill or talent in one area and tend to become preoccupied with their chosen subject of interest. Mr. Gould was a perfectionist who focused obsessively on his art. His pristine interpretations of Bach coupled with his astonishing technique as a player made him one of the greatest classical musicians of the 20th century. (*The Globe and Mail*, 1 February 2000, A1 & 6)

The word *even* in this instance does not appear to indicate a claim of the protagonist (who is Timothy Maloney, a musicologist and then director of the music division of the National Library of Canada) that this is the most important reason supporting the standpoint that Gould suffered from Asperger's

syndrome. Rather, it indicates that something which one might think does not support the standpoint in fact does so.

Although indicators help in revealing an author's intended argument structure, they are not essential and are often omitted. Here is an example of complementary coordinative argumentation, recognizable as such from the logical relationships among the asserted propositions, without any indicators of support relations, or any need for them:

(26) I don't agree with it [the theory that Gould suffered from Asperger's syndrome–DH] on the basis of my investigation of Gould's early childhood. He was a delightful, very advanced child, not impaired in any way. Asperger's children are not even able to make eye contact. They are almost like robots. Gould was nothing like that. (psychiatrist Dr. Helen Mesaros, author of a psychobiography of Gould, quoted in *The Globe and Mail*, 1 February 2000, A1 & 6)

Glossary

The initial italicized term occurs in Snoek Henkemans' paper. The second term is its rough equivalent in the writings of North American philosophers who write about argumentation. For a more nuanced description of the relations between the terminology, see Freeman (2001).

argument premiss

argumentation argument

complementary coordinative argumentation linked argument

cumulative coordinative argumentation convergent argument

multiple argumentation independent arguments

standpoint conclusion

subordinative argumentation serial argument

Notes

1. I use the terminology of Francisca Snoek Henkemans' paper. For a concordance with the terminology of North American philosophers who work in the theory of argumentation, see the glossary at the end of this commentary.
2. These are percentages of correct answers on multiple-choice test items, with a group of 90 or more respondents in each case.

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