

Argument Diagramming: Basic Principles

The following odd chain argument illustrates some important morals for argument diagramming.

Since it was brillig, the slithy toves grimbled. And we know that they also gyred and gimble in the wabe, since the borogoves were all mimsy. Now, if the slithy toves both grimbled and also gyred in the wabe, then the mome raths outgrabled. So, the mome raths outgrabled.

– adapted from Lewis Carroll, **Through the Looking-Glass and What Alice Found There** (1872).

Though we don't understand what (if anything) this argument is talking about, we will have no trouble diagramming it. And that demonstrates that in argument diagramming we are guided by clues and principles quite independent of the subject matter of the argument.

We noted before that **each combo sentence must be broken up** into its two parts, premise and conclusion. The first sentence in this argument is a combo sentence: “since” marks (1) as a premise, making (2) a conclusion.

Since (1) it was brillig, (2) the slithy toves grimbled.

1. It was brillig.

∴ 2. The slithy toves grimbled.

In diagram format, that combo argument looks like this.

1. It was brillig.

(1) ==> (2)

∴ 2. The slithy toves grimbled.

The second sentence is also a combo sentence.

(3) They also gyred and gimbled in the wabe, since (4) the borogoves were all mimsy.

“Since” marks “the borogoves were all mimsy” as the premise.

4. The borogoves were all mimsy.

$(4) \implies (3)$

\therefore 3. They [the slithy toves] also gyred and gimbled in the wabe.

Just from breaking apart combo sentences, we’ve already put this much of the argument into the following diagram.

Since (1) it was brillig, (2) the slithy toves grimbled. And we know that (3) they also gyred and gimbled in the wabe, since (4) the borogoves were all mimsy. Now, if the slithy toves both grimbled and also gyred in the wabe, then the mome raths outgrabled. So, the mome raths outgrabled.

$(1) \implies (2)$

$(4) \implies (3)$

The third sentence of the argument is an “if... then” sentence.

If the slithy toves both grimbled and also gyred in the wabe, then the mome raths outgrabled.

Like all “if-then” sentences, it has two smaller sentences as parts: the “the slithy toves both grimbled and also gyred in the wabe”, and “the mome raths outgrabled”. But “if...then” isn’t a premise or conclusion marker, so “if... then” sentences *don’t* count as combo sentences. Thus we **do not break an “if-then” sentence into its two smaller parts**, as we would with a combo sentence.

(An “and” sentence such as “*It’s sunny and it’s warm*” likewise has two smaller sentences as parts. But it’s not a combo sentence either, because “and” is here neither a premise nor conclusion marker. For this reason we resist the temptation to break “and” sentences apart in standard form.)

Not being a combo sentence, the “if... then” sentence is simply numbered.

Since (1) it was brillig, (2) the slithy toves grimbled. And we know that (3) they also gyred and gimble in the wabe, since (4) the borogoves were all mimsy. Now, **(5) if the slithy toves both grimbled and also gyred in the wabe, then the mome raths outgrabled.** So, the mome raths outgrabled.

(1) ==> (2)
(4) ==> (3)
(5)

The last sentence is not a combo sentence, and is simply given a number.

Since (1) it was brillig, (2) the slithy toves grimbled. And we know that (3) they also gyred and gimble in the wabe, since (4) the borogoves were all mimsy. Now, (5) if the slithy toves both grimbled and also gyred in the wabe, then the mome raths outgrabled. *So*, (6) **the mome raths outgrabled.**

But the conclusion marker “so,” and the location of Sentence (6) at the end of the passage, suggest strongly that (6) is the *conclusion* of the whole argument – the **main conclusion**. In the diagram we put the conclusion symbol “∴” before (6).

(1) ==> (2)
(4) ==> (3)
(5)
∴ (6)

Now as it stands, the diagram is just four disconnected ‘islands’. For all this diagram tells us there might be *no* relationship between sentences (2), (3), (5), and (6).

But intuitively that seems wrong: an argument shouldn't form a disconnected cluster of sentences. In particular, it would be odd for the author to state sentences – and even bothering to back some up with further evidence – if these sentences did no work supporting the main conclusion. In fact, with *no* sentences supporting the main conclusion, this would hardly be an argument at all.

Here we've put our finger on a *second* basic principle used in arguments (and argument diagramming): **each sentence should play some role in the argument.**

This assumption – that every sentence should be included for a reason – will be called the **No Useless Sentences Principle**.

Since the ultimate purpose of an argument is to convince someone of its main conclusion, the No Useless Sentences Principle dictates that every sentence in the argument not *already* supporting something is assumed to be supporting the main conclusion. So far sentences (2), (3), and (5) so far have no arrows linking them to any other sentence.

(1) ==> (2)

(4) ==> (3)

(5)

∴ (6)

The No Useless Sentences Principle leads us to assume that these sentences are supporting the main conclusion, (6). We show this by linking (2), (3), and (5) with “+” signs and drawing an arrow from them to the main conclusion.

(1) ==> (2)

(4) ==> (3)

(2) + (3) + (5) ==> ∴ (6)

Here every sentence (other than the main conclusion itself) supports the main conclusion either directly (sentence 2, 3, and 5) or indirectly (sentences

1 and 4).¹ Intuitively, this diagram makes much more sense of the argument, since *every sentence serves some purpose*.

The No Useless Sentences Principle applies to more than just arguments. In fact, it's a general principle of communication, one we've followed all along. Earlier we noted, for instance, that though questions aren't an essential part of an argument (and so don't appear in standard form), they still play a communicative role: rhetorical questions point out an unspoken declarative sentence, while issue questions help mark the conclusion. And other, purely 'introductory' material can serve the communicative role of easing the audience gently into the conversation – thereby avoiding an abruptness that might seem rude or angry.

Reaching beyond just arguments to communication in general, the No Useless Sentences Principle isn't really a principle of logic, but a matter of **pragmatics**. In our later discussion of pragmatics we revisit this principle in more detail.

Note how nicely that nonsensical argument example illustrates the power of these diagramming principles: appealing only to markers (including those in combo sentences), likely places, and the No Useless Sentences Principle, we can diagram an argument even when we don't understand its subject matter.

¹ The reason the main conclusion isn't required to support anything is obvious: it counts as the *main* conclusion precisely because it *doesn't* support anything further sentence.

Summary: Argument Diagramming Principles

- **Number each premise and conclusion.** This includes each sub-conclusion – so the two parts a combo sentence receive *different numbers*.

(Though “if... then” and “and” sentence do contain two smaller sentences as parts, they are *not* combo sentences, and their parts do *not* get different numbers.)

- **When one sentence supports a second sentence** (as shown by markers), draw an **arrow from premise number to conclusion number** . (If two or more sentences act as premises for the same conclusion, connect the premise numbers with a “+”.)
- Use markers and likely places to identify the the **main conclusion**. The main conclusion is noted in the diagram with the **conclusion symbol**, “.:”.
- Apply the **No Useless Sentences Principle**: any sentence (other than the main conclusion) not yet supporting anything should be assumed to support the main conclusion.