**ARGUMENTS INTRO**

**Arguments: Identifying, analysing and casting (diagramming)**

**Introduction**

(1) identifying arguments (recognising them);

(2) analysing arguments (breaking arguments into their components, and seeing what their structure is);

(3) evaluating arguments (assessing the strength of arguments); and

(4) producing arguments (as, for example, you’re required to do in other classes).

**1. Identifying arguments**

When we consider the word “argument”, we run into two issues. The problem of **ambiguity**—when a word can have more than one meaning, which applies to the word “argument”. Also the issue of **technical terminology**. One use of “argument” is as a technical term with a very specific meaning.

In the ordinary everyday use of the word, it can refer to a fight or a squabble or a situation where childen are “arguing” over who gets to play with the dog, or people are just disagreeing by contradicting each other with one continually saying “yes, it is” and the other continually saying “no, it isn’t”. But none of those situations is an argument in the **technical** sense, and we have to be careful not to mix up the everyday usage with the technical meaning. So what *is* the technical meaning of “argument”?

**What is an argument and what are the elements of an argument?**

An argument is *a connected set of* ***assertions***(i.e., two or more assertions—usually more than two), in which the assertions are divided up into (usually) *one which is the* ***conclusion***(the one that is being argued *for*), and the *others which are called* ***premises***(the assertions or statements which are intended to *support* or *give grounds for* or *justify* the conclusion).

In WRIT1001, if you take that class, you may learn different vocabulary for the elements of an argument. For the present class, try to stick to the terms used in this class.

Another way of putting it is to say that *an argument is an attempt to justify a claim*. The claim is the conclusion, and we can imagine someone objecting “Why should I believe that?”, and so the justification is given in the premises. For example, here is a simple, three- statement argument:

All BLAS students complete Analytical Thinking. Ahmed is a BLAS student, therefore he will complete Analytical Thinking.

If we’ve learned the technical terminology, then we can say that the first two assertions are premises and the last is the conclusion. But we don't have to set it out in three separate sentences like that. We could instead use one long sentence:

Given that all BLAS students complete Analytical Thinking, and that Ahmed is a BLAS student, he will complete Analytical Thinking.

Or we could begin by stating the conclusion, and then back it up by giving the reasons why someone should believe us:

Ahmed will complete Analytical Thinking because he’s a BLAS student, and all BLAS students must complete Analytical Thinking.

Of course, in real life, there is usually a lot of other material surrounding premises and conclusions, so arguments are often "wrapped up" in other material. But the essence of an argument is made up of these two elements: *premises* and *conclusion*.

People also use the word "argument" to refer loosely to someone's conclusion or main point. People ask things like: "What's your argument?" or "What is the author's main argument?", when sometimes really they are asking about the conclusion, the main point, the claim which the author is arguing *for.* For example, in 1913 the founder of Behaviourism, John Watson, wrote a famous “mission statement” for psychology (Watson, 1913). Let's say someone asks you what his main argument is, and you reply with something like this:

In his 1913 paper, Watson's main *argument* is that psychology should abandon all reference to consciousness and other mental terms, and concentrate only on objective, observable behaviour.

But of course, now that we know what an argument is, we can see that we haven’t provided the *whole* argument; we’ve only given *one part* of the argument, the *conclusion*, the proposition that Watson *is arguing for*. What are still missing are the premises—the support for his assertion, what he appeals to in order to *support and justify his claim*. If we were *evaluating* Watson’s claim, we wouldn’t just decide whether we agree or disagree; we’d consider how well his premises support his conclusion.

This loose way of talking isn’t really a problem as long as we realise that the whole argument has both premises and conclusion.

It’s more of a problem if we confuse an argument either with a *conditional statement* or with an *explanation*. Let’s take each of these in turn.

**What is the difference between an argument and a *conditional statement***?

A conditional statement is an “If ... then ...” statement. Even though conditional statements *contain* at least two assertions (e.g., “If it is raining, then the grass is wet” or “If I study, then I will pass the exam”) the way they are combined means that only a *single assertion* is being proposed (i.e., that under certain conditions something is/will be the case).

Conditional statements are very common in science, in the form of theoretical predictions and hypotheses. For example, “If an outgroup is normatively protected, then ingroup members will be motivated to hide their negative feelings towards members of the outgroup”. Conditional statements are also common in politics, as in “If illicit drugs are legalised, there will be an epidemic of deadly drug overdoses”. Or, “If Labor abolishes the negative gearing tax policy, house prices will collapse”.

Conditional statements often are *part of* an argument, they are often one of the *premises*, but they are not arguments in themselves.

**What is the difference between an argument and an *explanation*?**

Imagine your friend says to you: "I didn't have time to study for the Analytical Thinking exam, and I had a headache on the exam day, so I failed the exam". Here, there are three assertions: (i) I didn’t have time to study for the logical thinking exam; (ii) I had a headache on the exam day; and (iii) I failed the exam. And these three assertions *are* connected, which is part of the definition of an argument. But they are not connected by one justifying or supporting the other. They are **causally**connected. The first two facts (about not studying and having a headache) have *caused* the third one (the fail), and your friend is offering them as an **explanation**. Your friend is not answering the question “Why *should you believe* that I failed the exam?”, as if “I failed the exam” was the conclusion and the other statements were premises. Your friend is answering the question “What *caused* me to fail the exam?”. In other words, your friend is not trying to *convince you* that they failed the exam; that fact is *accepted as given*, and what they're doing is giving *reasons why it happened*; your friend is giving an explanation. So the main difference between an argument and an explanation is that *an argument attempts to justify a truth claim, it attempts to justify an assertion which may require support, whereas an* **explanation takes the truth of the claim as a given and explains why the situation occurred**.

This is important because in psychological research, we are faced with *both* arguments *and* explanations, and *how we evaluate* them depends on which of these we are looking at.

For example, Franco and Maass (1999) presented the following *argument* for using an implicit measure of prejudice in their study (this is abbreviated from the full argument, but notice that their first premise is a conditional statement):

If ingroup members lie on explicit measures, then we need to use *implicit* measures for their true feelings Ingroup members *do* lie on explicit measures Therefore, we need to use implicit measures for their true feelings

In the same study, Franco & Maass presented the following *explanation* of their findings:

We found that when the outgroup was not normatively protected there was a correlation between explicit and implicit measures, but when the outgroup was normatively protected the implicit and explicit measures were not correlated.  This is *because* ingroup members were unable to see through the implicit measures and so were unable to fake their views, whereas on the explicit measures they *did* hide their views about the protected group.

In other words, people’s inability to see through implicit measures and fake their answers *explains why* the study resulted in the observed pattern of correlations.

When we later come to the question of *evaluation* we shall see that being able to spot the difference between an argument and an explanation is necessary for us to do a good evaluation job.

But here we’re still concerned with how to identify arguments. When we are faced with some text—a research report, a journal article, a book, a newspaper item, a conference presentation—and we have to find any arguments in it, this is not easy. But there are two ways of approaching material, two skill techniques we can learn, that *can* help us. The first is asking certain questions about the meaningful content. The second is looking for linguistic clues in the words used. These methods are not absolutely foolproof, as we'll see, but they *are* helpful. Let's take the first one.

**1.4 Two techniques for helping to identify arguments**

***(i) Asking questions about the content***

If you’re faced with a set of assertions, and you're trying to establish whether they amount to an argument, sometimes it helps to ask the following questions:

Is anything being advocated here? If so, what?  What claim is the speaker trying to establish as true?  What is the speaker trying to convince me of, or get me to do?

These questions help to locate what might be an argument's *conclusion*. Even though, logically, the conclusion is the end product of an argument, *we need to find the conclusion first*, to facilitate finding the premises put forward to support the conclusion. Once we have the conclusion, we then can find the premises by asking questions like:

What reasons does the speaker give for the truth of his/her conclusion? What data or evidence is being offered in support of the conclusion? What statements does the speaker make to back up the conclusion?

Asking these questions will lead us to the premises. However, this method is not foolproof. We might have an answer to our question "What is the person trying to persuade me of?", so we have what we *think* is a conclusion, but when we ask the next set of questions and try to find the premises, we may find there aren't any. They might be just insisting on the conclusion, stating it in different ways, without offering any support. That’s not an argument; it’s just dogmatic assertion. If someone asserts that “Freud’s theory is rubbish”, a critical thinker will immediately ask *on what grounds* is that claim made, what are the *premises* for that conclusion.

The second technique to help us recognise arguments is to look for linguistic signals.

***(ii) Finding signal (“indicator”) words***

Sometimes, the language itself helps us to identify arguments, and to identify which are premises and which are conclusions. The language helps us by including words or phrases that act like *signals*, indicating the presence of conclusions or premises.

Some signals for **conclusions***: in conclusion*, *therefore*, *we can conclude that*, *it follows that*, *thus*, *consequently*, *so*, and *hence*.

Some signals for **premises**: *since*, *because*, *given that*, *for*, *after all*, and *for the reason that*.

Some arguments will not have signal words. Also, many of these little words are ambiguous, and sometimes they are not signalling arguments but are serving another function. "Because", for example, might be giving supporting reasons butmight be providing an explanation, as in the example of failing the exam *because* of not studying and having a headache.

These techniques are not just useful for identifying arguments; they are also useful for *structuring* essays and reports. First, you can ask the questions about content to work out what position you are arguing *for*, and what you are using to support that position. Then, you can refer to the premises in sequence (e.g., firstly, secondly, ...) and use signal words to make the arguments clear. This will help your work to demonstrate the three “c”s: clarity, coherence and conciseness.

So now we come to the second step in dealing with arguments—analysing them! Of course, by identifying the *components* of an argument, we’ve already analysed them. But there’s an extra step we can take by casting (“diagramming”) the relations between these.

**2. Analysing arguments**

Arguments are usually embedded in a lot of material which is either repetitive or irrelevant, so it’s sometimes difficult when you are looking at a page or several pages to see the argument clearly. **Casting** arguments means *extracting the elements of the argument* and *putting them into a diagram or picture*, so that you can see at a glance what is involved.

It involves using symbols, usually numbers, to stand for the individual assertions in an argument (both premises and conclusions), and then using lines and the position of the numbers to indicate how those assertions are related. The steps are:

(1) Number the assertions in the order in which they appear

(2) Underline any signal words indicating premises or conclusion

(3) Find the conclusion, and put its corresponding number at the bottom of your diagram

We’ll be doing a bit of this in the tutorials.

**What are the advantages of casting arguments?**

There are four advantages:

(1) Even if you’re very good at recognising arguments and their structure, the casting method is helpful when the argument is very long and complex and we wish to see its structure at a glance. In those cases it's just like any structure diagram representing any complex situation.

(2) It’s useful for *producing* arguments, e.g., for mapping out essay structure (which you can use in all your studies).

(3) For those who are just beginning, casting can be practised using very simple examples and gradually building up, and it becomes useful as a way of checking to see how well you have understood a text.

(4) It’s useful as a preliminary to evaluating arguments—because setting out the different components makes it easier to examine them separately.

**2.3 Two difficulties in casting “real life” arguments**

Now we come to two difficult but very common cases with arguments. The first is where arguments seem to be cut short and condensed. The second is where the problem seems to be the opposite: the argument appears to be long and extended. Let’s begin with the first case.

***(1) Incompletely stated arguments (enthymemes – from Greek “in-mind”)***

Very often an author leaves the reader or listener to fill in parts of an argument which are simply implied or assumed by the explicitly stated parts. The argument is called an *enthymeme*, because part of it is “in the mind” of the arguer, but has not been stated explicitly. There is, of course, always room for disagreement about what a particular author *means* or *intends* when it's not explicitly stated. But often it’s quite clear what is intended, and when we identify, analyse and evaluate arguments, we need to identify and include these unexpressed elements. Imagine a bouncer (A) speaking to someone (B) at a nightclub door.

A. I'm sorry, but only people who are over 18 are allowed into this club, and you are not over 18. B. But I *am* over 18.

Here, A is presenting an argument, without actually stating the conclusion. The argument has an *unexpressed* part, which is the *conclusion*: “Therefore you are not allowed into this club”. A is simply implying it by saying "I'm sorry, but ...". B understands the conclusion and that it follows, but objects to one of the premises. Now, what if the conversation had gone like this:

A. I'm sorry, but you are not allowed in, because only people who are over 18 are allowed in. B. But I *am* over 18.

*This* time, what has been left *unexpressed* is another *premise*: “You are not over 18”. Once again, B understands that the second premise is *implied* in the argument but is unexpressed. Now consider the following.

A. I'm sorry, but only people who are over 18 are allowed into this club. B. But I *am* over 18.

A's *single statement* actually expresses an *argument*, and B's reply shows that he understands the argument. B realises that another of A's premises is: "You are not over 18". And he also realises that the "I'm sorry, but ..." part suggests that B is not going to be allowed in. Thus, all A has *explicitly* expressed is *one of the premises* in the argument. That is, A has made only a *single assertion*. What is intended, but left unexpressed, is the second premise, and the conclusion. So here is A’s complete argument spelled out, and B’s reply:

A. Only people who are over 18 are allowed into this club. You are not over 18. Therefore you are not allowed into this club.

B. But I *am* over 18.

Obviously, if we were to cast this argument, we would have to include *all elements*, even those that are unexpressed, because we must pay attention to conversational implications. However, in our casting, we use a *letter* (instead of a number) to show that the element is unexpressed; any unexpressed elements are given letters (a, b, c, etc.)

Let's now look at the opposite problem, when the argument seems too long, or extended.

***(2) Extended arguments***

In an argument, the arguer uses the premise(s) to support the conclusion. But what if the premises are themselves a bit suspect? If the listener believes the premises are false, then they're not going to be persuaded of the conclusion which may be supported by those premises. Thus, we often find an argument has an extended structure, where one or more of the premises is itself given some justification or support. In other words, the premise is a mini-conclusion from further premises. For example (assertions are numbered):

All B. Psych students study logical thinking (1). Lee is a B. Psych student (2), **because her name is on the B. Psych enrolment list (3), and anyone whose name is on that list is a B. Psych student (4)**. *Therefore Lee studies logical thinking (5)*.

Students who study logical thinking are at an advantage over those who don't (6). Therefore, Lee is at an advantage over Jack (7).

(2) (5) = premise *and* conclusion (1) (3) (4) (6) = premises only (7) = conclusion only

Here, the arguer feels that she needs to convince the listener that Lee really is a B. Psych student, and she provides premises which support that statement. Notice that our conclusion that Lee studies logical thinking has become a premise for a further conclusion that she is at an advantage over Jack. But this whole argument is an enthymeme, because it has a *missing premise* in the last part of it. If you can work out what that missing or unexpressed premise is, then you have understood the argument as a whole.

Obviously, arguments can get very long and convoluted. But it's important to realise that this is nothing more than a case of chaining or embedding, and extended arguments can be broken down into simple ones. When we practise analysing arguments and casting them, it’s important to start with the simple ones first. If you've really understood those and mastered the methods, then extended arguments become much easier to handle.

**3. A final point: Adopting the *Principle of Charity***

Sometimes, it’s not clear whether something is an argument or an explanation or something else. Sometimes it’s not clear whether the arguer *does* intend elements that are just not expressed. If we can’t tell, then we must be generous and give the author the benefit of the doubt.

‘The intellectual must try never to forget the arguments of the adversary, or the uncertainty of the future, or the faults of one’s own side, or the underlying fraternity of ordinary men everywhere.’ – Raymond Aron

Aron’s quote above reminds us that we all make mistakes. You can find fault in everyone’s arguments, but you’ll learn more from others if you follow the *Principle of Charity*: be as generous as possible to the writer when trying to interpret their arguments. This may mean filling in some premises or strengthening some of their logic. But it is also fair enough to point out that the material is not clear or insufficient to fully evaluate.

**Conclusion**

We noted that research is all about observation and argument; it’s all about using observations to present evidence and draw conclusions. So we described arguments in general, and techniques for spotting the different elements of arguments. And we've considered two difficulties facing us, the first when arguments are cut short (with missing or unexpressed elements) and the second when arguments are extended to form chains.

In the lecture and tutorial we go deeper into identifying and analysing arguments by looking at the actual *relation between the premises and the conclusion*.

There are *two basic types of argument: deductive and inductive*. As we’ll see, bothforms of argument are central in science.

**References**

Based on a handout by Agnes Petocz of Western Sydney University.

*The power of critical thinking* by Vaughn, Chapter 1, <http://opac.library.usyd.edu.au/search/r?SEARCH=ATHK1001>

Bassham, G., Irwin, W., Nardone, H. & Wallace, J. M. (2008). *Critical thinking. A student's introduction*. (3rd ed.). Boston: McGraw Hill.