

Final Paper

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1 Overview

You must turn in two drafts of your final paper. The first draft, due on **March 22 by 11:59pm**, must be in the range **2000-2500 words**. The second draft, due on **April 12 by 11:59pm**, must be in the range **3500-4000 words**. Both drafts should be submitted through the course's Canvas website:

<https://canvas.nus.edu.sg/courses/39386>

Note the lateness policy on my course website:

<http://isaacwilhelm.com/Courses/2023/PhilSciS2023/psS2023.htm>

In particular, note that you are responsible for making sure that your file is uncorrupted and successfully loaded to Canvas. Technological mistakes will not excuse you from lateness penalties.

Please read the following instructions carefully. For the assignment, choose one of the following selections from the textbook.

1. C. Hempel, "Studies in the Logic of Confirmation (I.)," the passage on p. 14 which begins with the phrase "Thus, we shall agree..." and ends with the phrase "...or a black raven)."
2. N. Goodman, "Fact, Fiction, and Forecast," the passage on p. 73 which begins with the phrase "So long as what seems to be needed..." and ends with the phrase "...before our definition will work at all."
3. H. Longino, "Values and Objectivity," the passage on pp. 153-154 which begins with the phrase "Objectivity, then, is a characteristic..." and ends with the phrase "...the uses it serves."

Although your assignment will be based solely on the selected passage, you should read the whole article, in order to understand the passage's background context.

Both papers should begin with a short introduction, in which you explain the basic topic of the article and what you plan to discuss. Both papers should also end with a short conclusion, in which you summarize what came before.

For the first draft, you should do the following.

1. *Extract* the author's argument in the assigned passage: roughly put, tell me what the argument's premises are and what the argument's conclusion is.
2. *Justify* that argument: roughly put, tell me why the author thinks that each of the premises are true.

And for the second draft, you should do both of those things, and also a third.

3. *Evaluate* the argument: roughly put, tell me what you think of the premises.

In the rest of these instructions, I explain what I mean by 'extract', 'justify', and 'evaluate'.

2 Extraction

In this section, I explain the basics of argument extraction. Then I explain a few other things which you should do in the 'extraction' part of your paper.

Extracting an argument means reformulating an argument in order to capture, as clearly as possible, what the author has in mind. For the purposes of this assignment, the extracted argument must be logically valid: so the truth of the premises must guarantee the truth of the conclusion. And the extracted argument must be more-or-less what the author was thinking, when they wrote the paragraph.

For example, suppose you were to extract an argument from the paragraph below.

People have become lazy when walking their dogs. Sometimes, they neglect to pick their dog's poop up off their neighbors' grass. Those people should read up on the local laws regarding domestic pets. The

laws are extremely reasonable. They cover many different things, including proper dog-walking etiquette. So whenever I walk my dog, I always follow the law: do not leave dog poop on your neighbor's lawn!

A first attempt at an extraction might be this.

The author claims that the local laws are reasonable. In addition, according to the author, the local laws imply that it is wrong to leave dog poop on your neighbor's lawn. Therefore, the author concludes, it is wrong to leave dog poop on your neighbor's lawn.

The first two sentences of this extraction are the premises of the argument in the paragraph above, and the final sentence is the argument's conclusion. Note that neither the second premise nor the conclusion is explicitly stated in the paragraph above. That is fine: in many cases, your extracted argument will have statements which the assigned passage leaves implicit. And note that it may be possible to extract a different kind of argument from the assigned passage. That is normal: in general, the argument in the assigned passage will be compatible with several different extracted arguments.

This first attempt is no good, because it is not valid. The first and second premises do not logically imply the concluding line 3. To make the argument valid, another premise is required. So here is a second attempted extraction.

The author of the passage commits, implicitly or explicitly, to three claims. First, the author claims that the local laws are reasonable. Second, according to the author, the local laws imply that it is wrong to leave dog poop on your neighbor's lawn. Third, the author seems to accept the following: if the local laws imply that it is wrong to leave dog poop on your neighbor's lawn, then it is wrong to leave dog poop on your neighbor's lawn. Therefore, the author concludes, it is wrong to leave dog poop on your neighbor's lawn.

Note that this is just one way of making the original attempted extraction valid. There are others: for instance, the "If . . . then . . ." premise could be replaced by "Everything that the local laws imply is true."

The second attempted extraction is better than the first, because it is valid. But it is still not good enough, because the first premise—about the local laws being reasonable—is superfluous. That is, the conclusion follows from the second and

third premises alone: the first premise is unnecessary. So that premise should be cut. The resulting extracted argument is as follows.

The author of the passage commits, implicitly or explicitly, to two claims. First, according to the author, the local laws imply that it is wrong to leave dog poop on your neighbor's lawn. Second, the author seems to accept the following: if the local laws imply that it is wrong to leave dog poop on your neighbor's lawn, then it is wrong to leave dog poop on your neighbor's lawn. Therefore, the author concludes, it is wrong to leave dog poop on your neighbor's lawn.

This final extracted argument is great. It is valid, since it has the logical structure indicated below:

1. A
2. If A then B
3. Therefore, B

where A is "the local laws imply that it is wrong to leave dog poop on your neighbor's lawn" and B is "it is wrong to leave dog poop on your neighbor's lawn." In addition, this final extracted argument is good because it represents, fairly well, what the author of the assigned passage had in mind. In other words, this final extracted argument is a good *precisification* of the line of thought in that passage.

To make the extracted argument maximally clear, it often helps to express it in the format above. For instance, to clearly express the final extracted argument about walking dogs, it should be written like this.

1. The local laws imply that it is wrong to leave dog poop on your neighbor's lawn.
2. If the local laws imply that it is wrong to leave dog poop on your neighbor's lawn, then it is wrong to leave dog poop on your neighbor's lawn.
3. Therefore, it is wrong to leave dog poop on your neighbor's lawn.

It is not absolutely necessary that you present your extraction in this format. But doing so helps a lot: it forces you to be extremely clear about exactly what the extracted argument is, for instance. So I suggest that you write your extraction out in the above form, in your final paper drafts.

Along with featuring an extracted argument, the ‘extraction’ part of your paper should include several other things. It should include more details than the extracted argument in this example, for instance. The reason is straightforward: the passages from which you will extract an argument—taken from the readings mentioned above—are more involved than the passage upon which this example extraction was based.

In addition, the ‘extraction’ part of your paper should contain lots of other information as well. For instance, you should explain all the relevant parts of the author’s argument: the terminology that they use, the principles that they invoke, and so on. So if the author uses an important term, in the argument which you extracted, then you should state the definition of that term, and explain what the definition says in an everyday, colloquial sort of way.

Of course, this might require that you cite other parts of the article in question: perhaps the author defined the relevant terms earlier, for instance. If so, that is fine. Be sure to talk about those other parts of the article, if they connect to the assigned passage in important ways.

In this ‘extraction’ part of your paper, it is often worth describing how the extracted argument connects to the rest of the author’s article. So be sure to explain the role that—in the context of the author’s article—the extracted argument plays. How does the extracted argument connect to the author’s larger project, in the article at issue? What purpose, for the author, does the extracted argument play?

In general, your extraction will probably be around four or five pages. It is fine, however, if your extraction is longer or shorter than that. Just make sure that it is reasonably clear and complete.

3 Justification

Justifying an argument means presenting the arguer’s reasons for endorsing the premises. To justify your extracted argument, go through the premises one by one, and tell me why the author of the assigned passage thinks that each premise is true.

For example, consider the final extracted argument from the previous section. To

justify that argument, you must say why the author of the original paragraph thinks that the first and second premises are true. Presumably, the author thinks the first premise is true because the author has read the local laws, and according to those laws, it is wrong to leave dog poop on your neighbor's lawn. The author thinks the second premise is true because, for instance, the author thinks that the local laws are generally reasonable, that the local laws are generally just, and that the local laws correctly capture the moral facts about dog-walking etiquette in particular.

This part of the assignment relies on an important distinction: namely, the distinction between premises and *justifications* of premises. Note that the premise "The local laws are reasonable," which appeared in the first extracted argument in Section 2, did not appear in the third extracted argument. That fact about the laws—though it was quite prominent in the original passage upon which the extracted arguments were based—is not the sort of fact that features as a premise in the final extraction. But it *is* the sort of fact that can *justify* one of the final extraction's premises. In particular, it justifies the second premise: since the local laws are reasonable, we can trust them to tell us what is right and what is wrong. So do not be surprised if the argument you extract, from the assigned passage, leaves a great deal of that passage out. The other bits of the passage are still relevant to the extracted argument, because those other bits serve to *justify* the extracted argument's premises. So you can talk about the rest of that passage in the justification section of your paper.

4 Evaluation

In the second draft of your paper, you must—in addition to improving your extraction and justification, in light of my comments—evaluate the extracted argument. In particular, you must determine whether or not you think that the premises are true. And depending on what you say about the premises, you should do a few other things as well.

Here is one way that your evaluation section could go. Suppose you think that the argument's conclusion is false. Then you must say which premises are false: for since the argument is valid, if the conclusion is false then at least one of the premises must be false as well. In addition, you should explain why those premises are false: give your reasons, that is, for rejecting those premises. Finally, you should respond to the author's justification for the premises which you reject:

that is, explain why the author's justifications of those premises—as presented in your section on justification—do not succeed.

For an example of this, take the argument from earlier. Suppose you think that the conclusion is false. Then you must think that at least one of the premises is false as well. So say which ones: perhaps you claim that the second premise—"If the local laws imply that it is wrong to leave dog poop on your neighbor's lawn, then it is wrong to leave dog poop on your neighbor's lawn"—is the false one. Then tell me why that is: in other words, give some reasons for thinking that the local laws are not as reasonable as the author of the passage suggests. Finally, respond to the author's justification of this premise: explain why, in other words, that justification fails.

Here is another way that your evaluation section could go. Suppose you think that the argument's conclusion is true. Then there are two further things which you might think: that all of the premises are true, or at least one of the premises is false. If the former, then provide your own justifications for each of the premises; and in addition, think of an objection to one of the premises which someone might give, and defend that premise against that objection. If the latter, then say which premise is false, and explain why; and in addition, explain how the argument could be fixed up, in order to avoid invoking a false premise.

For an example of this, take the argument from earlier. Suppose you think that the conclusion is true. In addition, suppose you think that all of the premises are true as well. Then provide your own justifications for each of the premises, and in addition, defend one of the premises against an objection which someone might raise. For instance, you might justify the first premise – "The local laws imply that it is wrong to leave dog poop on your neighbor's lawn" – by saying that the mayor recently told you as much, and you might justify the second premise – "If the local laws imply that it is wrong to leave dog poop on your neighbor's lawn, then it is wrong to leave dog poop on your neighbor's lawn" – by arguing for some sort of connection between laws and moral facts. In addition, pick one of these premises, think of an objection to it, and then defend that premise from that objection.

Alternatively, suppose you think that—even though the conclusion is true—at least one premise is false. Then say which premise does not hold, describe why, and explain how to fix the argument so that it no longer invokes that premise. For instance, perhaps you reject the second premise. Then say so, and explain your reasoning: perhaps you think that there is no compelling connection between laws and moral facts. Finally, think of a way to fix the argument, so that it establishes

its conclusion, but does not invoke that problematic second premise.

Since this all might seem somewhat complicated, here is a condensed description of the ways—described above—that your evaluation section could be structured.

- (1) You think that the conclusion is false.
 - Say which premises are, in your view, false, and explain why.
 - Respond to the author’s justification of those premises. That is, explain why those justifications of those premises do not succeed.
- (2) You think that the conclusion is true.
 - (i) You think that each premise is true.
 - Provide your own justifications for each of the premises.
 - Think of an objection to one of the premises, present that objection, and defend the premise against that objection.
 - (ii) You think that at least one premise is false.
 - Say which premises are, in your view, false, and explain why.
 - Find a way to revise the argument, so that it no longer invokes the purportedly false premise; then justify the premises in your revision. If you think there is no way to revise the argument, in that way, then explain why.

Note that in the evaluation section of the paper, you should not merely express your own opinions. You should give lots of reasons that support what you think.