Final Paper

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Your final paper must be *less than* 800 words long. The first draft is due April 12, and the final draft is due May 3. Both drafts should be turned in at the Sakai website:

> https://sakai.rutgers.edu/portal/site/d766b977-5fb8-404a-a562-d1ce0520db33

Note the late paper policy on the course website:

> https://isaacwilhelm.com/introduction-to-the-philosophy-of-science/

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

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

1. I. Lakatos, "Science and Pseudoscience", the paragraph on p. 23 which begins with the phrase "Is, then, Popper's falsifiability criterion..." and ends with the phrase "...as are some Marxists".
2. H. Longino, "Values and Objectivity", the paragraph on p. 153 which begins with the phrase "Objectivity, then, is a characteristic..." and ends with the phrase "...rather than an individual activity".

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.

Your paper should begin with a short introductory paragraph in which you explain the basic topic of the article and what you plan to discuss. Then you should do the following three things.

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

1 Extraction

Extracting an argument means formulating an argument in numbered-premise format—as you have seen me do in class—that captures what the author of the passage is arguing. 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 had in mind.

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 fair. 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.

1. The local laws are fair.
2. The local laws imply that 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.

Note that neither premise 2 nor the conclusion is explicitly stated in the paragraph above the extraction. That is fine: in many cases, your extracted argument will have lines 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. Premises 1 and 2 do not logically imply the concluding line 3. To make the argument valid, another premise is required. So here is a second attempted extraction.

1. The local laws are fair.
2. The local laws imply that it is wrong to leave dog poop on your neighbor's lawn.
3. 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.
4. Therefore, 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, line 3 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 premise 1 is superfluous. That is, the conclusion follows from premises

2 and 3 alone: premise 1 is unnecessary. So premise 1 should be cut. The resulting extracted argument is as follows.

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.

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, reasonably 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.

2   Justification

Justifying an argument means presenting the arguer's reasons for endorsing the premises. To justify your extracted argument, go through the premises line by line, 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 premises 1 and 2 are true. Presumably, the author thinks premise 1 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 premise 2 is true because, for instance, the author thinks that the local laws are generally fair, that the local laws are generally just, and that the local laws correctly capture the moral facts about dog-walking etiquette in particular.

This raises an important issue: the difference between premises and *justifications* of premises. Note that the line "The local laws are fair", which appeared in the first extracted argument in Section 1, 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 can feature in a premise. But it *is* the sort of fact that can *justify* a premise. In particular, it justifies premise 2: since the local laws are fair, 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.

3   Evaluation

Evaluating an argument means determining whether you think the argument is sound. Recall that a sound argument is a valid argument whose premises are true. Your extracted argument ought to be valid; see Section 1. So to evaluate your extracted argument, you must present your reasons for thinking that the premises are true or false.

For example, consider once more the extracted argument concerning the local laws and dog poop. Suppose you think that the argument is incorrect – the conclusion, you think, is false. Then you must say which premise is incorrect: since the argument is valid, if the conclusion is false then one of the premises must be false as well. Perhaps you think that premise 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"—is false. Then tell me why that is. Perhaps you have reasons to think that the local laws are not as fair as the author of the passage suggests.

Alternatively, suppose you think that the argument is correct: like the author, you think that each premise in the argument is true. Then you must tell me why you think that. In your own view, why should we accept the premises? How might someone object to one of the premises in the argument, and how could that premise be defended?

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