I. Administrative

A. Problem set – PS#4 due on Tuesday (12/8) in class

B. Questions?

II. Inference to the Best Explanation

A. This sort of argument is intended to establish a conclusion based on its ability to best explain a range of observations

1. We need to think about what counts as explanation here—they generate understanding and help us make sense out of things

2. We need to think about what distinguishes better explanations from worse ones

3. As an inductive argument, this is non-monotonic and defeasible

B. The authors give us a four part structure for these arguments:

1. Observations: what facts are you noticing that might all be explained together?

2. Explanation: how might one pull them all together as facts that are true because of some other fact, e.g., as effects of a single cause.

3. Comparison: does this explanation better explain the facts than other available explanations?

4. Conclusion: if “yes” to (3), then that is the conclusion of the argument

C. Evaluating IBEs

1. Explanation: the hypothesis (i.e., the conclusion) must really be an explanation of the observations
2. *Depth*: the explanation should be deep, in that it should stand up to scrutiny and not simply be an obvious coincidence

3. *Power*: the explanation should work in similar contexts as an explanation of other sets of observations, and perhaps also support extension beyond this set to other sets

4. *Simplicity*: the explanation should not involve unnecessary entities or complexities

5. *Modesty*: the explanation should not claim too much—don’t jump to conclusions unsupported by the observations

6. *Conservativeness*: the explanation shouldn’t force you to revise your beliefs, if possible

7. *Falsifiability*: the explanation needs to be incompatible with some possible outcome

D. **Example**: Although I fished here all day, I didn’t catch any fish, because there are no fish in this whole river. (12.1)

III. **Argument from Analogy**

A. This sort of argument is intended to establish the conclusion that some item of interest has a characteristic based on an analogy between the item of interest and other items that have that characteristic

1. We need to think about what counts as a good analogy—this will depend on finding things that are alike in important and relevant respects, e.g., structural respects

2. The conclusion can be no stronger than the analogy

3. Once again, as an inductive argument, it will be non-monotonic and defeasible.

B. The authors give us this form for these arguments:

1. Object A has properties P, Q, R, etc.

2. Objects B, C, D, etc. also have properties P, Q, R, etc.

3. Objects B, C, D, etc. have the property X

4. Therefore, A probably has the property X
C. Here, 1 and 2 establish the analogy and then 3 and 4 exploit it for explanatory purposes

D. Evaluating AAs

1. Truth: the premises must be true

2. Relevance: the characteristics used to establish the analogy must be relevant to the characteristic in the conclusion

3. Importance: the similarities that constitute the analogy should be specific and as closely related to the target characteristic as possible

4. Number: the quality of an AA will typically improve when there are “more and closer analogies”

5. Diversity: “the objects cited only in the premises are more diverse” (p. 206)

6. No relevant disanalogies: these can undermine the AA if present

7. Modesty: the conclusion should not overreach—the weaker the conclusion, the stronger the argument (other things being equal)

8. Wrapping these up, “an argument from analogy is stronger when:
   a. It cites more and closer analogies that are more important
   b. There are fewer or less important disanalogies between the object in the conclusion and the other objects
   c. The objects cited only in the premises are more diverse
   d. The conclusion is weaker” (p. 206)

E. Example: This landscape by Cézanne is beautiful. He did another painting of a similar scene around the same time. So it is probably beautiful, too.