3.3 Analogical arguments

Another kind of common inductive argument is an argument from analogy. In an **argument from analogy**, we note that since some thing x shares similar properties to some thing y, then since y has characteristic A, x probably has characteristic A as well. For example, suppose that I have always owned Subaru cars in the past and that they have always been reliable and I argue that the new car I've just purchased will also be reliable because it is a Subaru. The two things in the analogy are 1) the Subarus I have owned in the past and 2) the current Subaru I have just purchased. The similarity between these two things is just that they are both Subarus. Finally, the conclusion of the argument is that *this* Subaru will share the characteristic of *being reliable* with the past Subarus I have owned. Is this argument a strong or weak inductive argument? Partly it depends on how many Subarus I've owned in the past. If I've only owned one, then the inference seems fairly weak (perhaps I was just lucky in that one Subaru I've owned). If I've owned ten Subarus then the inference seems much stronger. Thus, the reference class that I'm drawing on (in this case, the number of Subarus I've previously owned) must be large enough to generalize from (otherwise we would be committing the fallacy of "hasty generalization"). However, even if our reference class was large enough, what would make the inference even stronger is knowing not simply that the new car is a Subaru, but also specific things about its origin. For example, if I know that this particular model has the same engine and same transmission as the previous model I owned and that nothing significant has changed in how Subarus are made in the intervening time, then my argument is strengthened. In contrast, if this new Subaru was made after Subaru was bought by some other car company, and if the engine and transmission were actually made by this new car company, then my argument is weakened. It should be obvious why: the fact that the car is still called "Subaru" is not relevant establishing that it will have the same characteristics as the other cars that I've owned that were called "Subarus." Clearly, what the car is called has no inherent relevance to whether the car is reliable. Rather, what is relevant to whether the car is reliable is the quality of the parts and assembly of the car. Since it is possible that car companies can retain their name and yet drastically alter the quality of the parts and assembly of the car, it is clear that the name of the car isn't *itself* what establishes the quality of the car. Thus, the original argument, which invoked merely that the new car was a Subaru is not as strong as the argument that the car was

constructed with the same quality parts and quality assembly as the other cars I'd owned (and that had been reliable for me). What this illustrates is that better arguments from analogy will invoke more *relevant similarities* between the things being compared in the analogy. This is a key condition for any good argument from analogy: the similar characteristics between the two things cited in the premises must be *relevant* to the characteristic cited in the conclusion.

Here is an ethical argument that is an argument from analogy.[1] Suppose that Bob uses his life savings to buy an expensive sports car. One day Bob parks his car and takes a walk along a set of train tracks. As he walks, he sees in the distance a small child whose leg has become caught in the train tracks. Much to his alarm, he sees a train coming towards the child. Unfortunately, the train will reach the child before he can (since it is moving very fast) and he knows it will be unable to stop in time and will kill the child. At just that moment, he sees a switch near him that he can throw to change the direction of the tracks and divert the train onto another set of tracks so that it won't hit the child. Unfortunately, Bob sees that he has unwittingly parked his car on that other set of tracks and that if he throws the switch, his expensive car will be destroyed. Realizing this, Bob decides not to throw the switch and the train strikes and kills the child, leaving his car unharmed. What should we say of Bob? Clearly, that was a horrible thing for Bob to do and we would rightly judge him harshly for doing it. In fact, given the situation described, Bob would likely be criminally liable. Now consider the following situation in which you, my reader, likely find yourself (whether you know it or not—well, now you *do* know it). Each week you spend money on things that you do not need. For example, I sometimes buy $5 espressos from Biggby's or Starbuck's. I do not need to have them and I could get a much cheaper caffeine fix, if I chose to (for example, I could make a strong cup of coffee at my office and put sweetened hazelnut creamer in it). In any case, I really don't need the caffeine at all! And yet I regularly purchase these $5 drinks. (If $5 drinks aren't the thing you spend money on, but in no way need, then fill in the example with whatever it is that fits your own life.) With the money that you could save from forgoing these luxuries, you could, quite literally, save a child's life. Suppose (to use myself as an example) I were to buy two $5 coffees a week (a conservative estimate). That is $10 a week, roughly $43 a month and $520 a year. Were I to donate that amount (just $40/month) to an organization such as the Against Malaria Foundation, I could save a child's

[1] This argument comes (with interpretive liberties on my part) from Peter Singer's, "The Singer Solution to World Poverty" published in the NY Times Magazine, September 5, 1999.

life in just six years.[2] Given these facts, and comparing these two scenarios (Bob's and your own), the argument from analogy proceeds like this:

1. Bob chose to have a luxury item for himself rather than to save the life of a child.
2. "We" regularly choose having luxury items rather than saving the life of a child.
3. What Bob did was morally wrong.
4. Therefore, what we are doing is morally wrong as well.

The two things being compared here are Bob's situation and our own. The argument then proceeds by claiming that since we judge what Bob did to be morally wrong, and since our situation is analogous to Bob's in relevant respects (i.e., choosing to have luxury items for ourselves rather than saving the lives of dying children), then our actions of purchasing luxury items for ourselves must be morally wrong for the same reason.

One way of arguing against the conclusion of this argument is by trying to argue that there are relevant disanalogies between Bob's situation and our own. For example, one might claim that in Bob's situation, there was something much more immediate he could do to save the child's life right then and there. In contrast, our own situation is not one in which a child that is physically proximate to us is in imminent danger of death, where there is something we can immediately do about it. One might argue that this disanalogy is enough to show that the two situations are not analogous and that, therefore, the conclusion does not follow. Whether or not this response to the argument is adequate, we can see that the way of objecting to an argument from analogy is by trying to show that there are relevant differences between the two things being compared in the analogy. For example, to return to my car example, even if the new car was a Subaru and was made under the same conditions as all of my other Subarus, if I purchased the current Subaru used, whereas all the other Subarus had been purchased new, then that could be a relevant difference that would weaken the conclusion that this Subaru will be reliable.

So we've seen that an argument from analogy is strong only if the following two conditions are met:

[2] http://www.givewell.org/giving101/Your-dollar-goes-further-overseas

1. The characteristics of the two things being compared must be *similar in relevant respects* to the characteristic cited in the conclusion.
2. There must not be any *relevant disanalogies* between the two things being compared.

Arguments from analogy that meet these two conditions will tend to be stronger inductive arguments.

Exercise 24: Evaluate the following arguments from analogy as either strong or weak. If the argument is weak, cite what you think would be a relevant disanalogy.

1. Every painting by Rembrandt contains dark colors and illuminated faces, therefore the original painting that hangs in my high school is probably by Rembrandt, since it contains dark colors and illuminated faces.
2. I was once bitten by a poodle. Therefore, this poodle will probably bite me too.
3. Every poodle I've ever met has bitten me (and I've met over 300 poodles). Therefore this poodle will probably bite me too.
4. My friend took Dr. Van Cleave's logic class last semester and got an A. Since Dr. Van Cleave's class is essentially the same this semester and since my friend is no better a student than I am, I will probably get an A as well.
5. Bill Cosby used his power and position to seduce and rape women. Therefore, Bill Cosby probably also used his power to rob banks.
6. Every car I've ever owned had seats, wheels and brakes and was also safe to drive. This used car that I am contemplating buying has seats, wheels and brakes. Therefore, this used car is probably safe to drive.
7. Every Volvo I've ever owned was a safe car to drive. My new car is a Volvo. Therefore, my new car is probably safe to drive.
8. Dr. Van Cleave did not give Jones an excused absence when Jones missed class for his grandmother's funeral. Mary will have to miss class to attend her aunt's funeral. Therefore, Dr. Van Cleave should not give Mary an excused absence either.
9. Dr. Van Cleave did not give Jones an excused absence when Jones missed class for his brother's birthday party. Mary will have to miss class to attend her aunt's funeral. Therefore, Dr. Van Cleave should not give Mary an excused absence either.

10. If health insurance companies pay for heart surgery and brain surgery, which can both increase an individual's happiness, then they should also pay for cosmetic surgery, which can also increase an individual's happiness.
11. A knife is an eating utensil that can cut things. A spoon is also an eating utensil. So a spoon can probably cut things as well.
12. Any artificial, complex object like a watch or a telescope has been designed by some intelligent human designer. But naturally occurring objects like eyes and brains are also very complex objects. Therefore, complex naturally occurring objects must have been designed by some intelligent non-human designer.
13. The world record holding runner, Kenenisa Bekele ran 100 miles per week and twice a week did workouts comprised of ten mile repeats on the track in the weeks leading up to his 10,000 meter world record. I have run 100 miles per week and have been doing ten mile repeats twice a week. Therefore, the next race I will run will probably be a world record.
14. I feel pain when someone hits me in the face with a hockey puck. We are both human beings, so you also probably feel pain when you are hit in the face with a hockey puck.
15. The color I experience when I see something as "green" has a particular quality (that is difficult to describe). You and I are both human beings, so the color you experience when you see something green probably has the exact same quality. (That is, what you and I experience when we see something green is the exact same experiential color.)

3.4 Causal reasoning

When I strike a match it will produce a flame. It is natural to take the striking of the match as the cause that produces the effect of a flame. But what if the matchbook is wet? Or what if I happen to be in a vacuum in which there is no oxygen (such as in outer space)? If either of those things is the case, then the striking of the match will not produce a flame. So it isn't simply the striking of the match that produces the flame, but a combination of the striking of the match together with a number of other conditions that must be in place in order for the striking of the match to create a flame. Which of those conditions we call the "cause" depends in part on the context. Suppose that I'm in outer space