Causal Fallacies

"The refutation which depends on treating as cause what is not a cause, occurs whenever what is not a cause is inserted in the argument, as though the refutation depended on it."

(Aristotle, *Sophistical Refutations*, transl. W.A. Pickard-Cambridge, 1984)

I. Lesson

Another important class of fallacies are *causal fallacies*. These errors involve some kind of improper use of *cause* in an argument. We will be looking at three such errors: the *non causa pro causa* fallacy, the *genetic* fallacy, and the *appeal to nature/naturalistic* fallacy.

- **Non Causa Pro Causa:** an argumentative fallacy in which the conclusion that *A* causes *B* is drawn on the basis that the occurrence of *A* is correlated with the occurrence of *B*

Fancy though this may sound, the literal translation from Latin is quite self-explanatory: "no cause for cause" – that is, incorrectly identifying *A* as the cause of *B* on the basis of a regular association between the occurrence of *A* and that of *B*. Consider the following reasoning: "Every time my neighbor drinks coffee on Mondays, a cat meows in Istanbul. Therefore, my neighbor's drinking coffee on Mondays causes a cat to meow in Istanbul." You might have heard this error described as conflating *correlation* and *causation*. That two events are somehow correlated does not mean that one *causes* the other. A study may show that there is a positive correlation between, say, eating lemons and being a better dancer. However, it would clearly be silly to say that eating lemons *causes* you to be a better dancer. The main takeaway is that events can be correlated without being causally connected, although sometimes, of course, they might be.

[Activity] *Non causa pro causa* is the most basic causal fallacy. As such, it's very common in many day-to-day scenarios. Consider the following example. Some researchers designed a study to measure whether there's any connection between drinking coffee and hair growth. Measuring the hair growth of a group of people who drink coffee and a group of people who don't, the researchers establish a positive correlation between coffee consumption and hair growth. 1) Come up with a conclusion that commits the fallacy and 2) Come up with an alternative conclusion that does not.

- **The Genetic Fallacy:** a fallacy in which an argument supports or refutes a position on the basis of that position's origins, rather than its argumentative content

Oftentimes, we appeal to the *origin* or *genesis* of a belief, object, or concept as a way of either supporting, or discrediting it. However, the origin of a belief, object, or concept may be completely irrelevant to its present status. In such cases, invoking origins amounts to committing the genetic fallacy, as in the following example. "Originally, alcohol was used in religious rituals in some cultures as a trance-inducing substance. Therefore, consuming alcohol today is a spiritual act." In this case, the origins of the act are completely irrelevant to the conclusion. If some things

were a particular way at a certain time, it does not follow immediately that they *are* the same way at a later time; we would need further independent evidence to establish something like this. As obvious as this point might be, it is exactly the point one misses when committing the genetic fallacy. Surely, it is interesting to investigate the sources of some present belief, object, or concept. We can learn much from doing so. However, the results of this investigation – namely, the sources of some present belief, object, or concept – are not always logically relevant to present states of affairs. In the Examples section, we will look at some more subtle cases where appeals to origins are (or might be) logically relevant to the present.

[Activity] Before looking at examples, when do you think that the origins of a belief, object, or concept could be relevant towards logically establishing something about its current condition? Discuss with a partner!

- Appeal to Nature Fallacy**:** a fallacy in which an argument concludes that some entity or action is good on the basis of its natural origins

The appeal to nature fallacy is often confused with the so-called 'Naturalistic Fallacy'. Although both use the concept of 'nature', they do so in different ways. We will look at the Naturalistic Fallacy in the next section, which is left as an optional addendum for those interested. For the purposes of our conversation about causal fallacies, we turn to the appeal to nature fallacy first. The appeal to nature fallacy is a type of genetic fallacy. In particular, the origin being invoked is the *natural origin* of a thing, and the conclusion is supposed to establish *a moral claim*. The faulty inference goes as follows: "*P* is natural. Therefore, *P* is morally acceptable" (by 'natural', we broadly mean 'generated and dictated by the laws of nature'). The unstated assumption here is that all things with *natural origins* are automatically morally acceptable. Put otherwise, the claim is this: anything that has its origins in nature is morally acceptable *because* it has its origins in nature. In the history of philosophy, some thinkers have endorsed this. However, it is very hard, if not impossible, to defend this position. As we shall see in the Examples section, endorsing it would commit us to some very strange ideas about what counts as morally acceptable. In some cases, the appeal to nature fallacy is taken one bad deduction further in stating that all things with unnatural origins are automatically morally unacceptable. Generally, we have no reason to think that things being a certain way according to nature gives them any special moral status.

[Activity] Do you think the origins (not necessarily natural ones) of an object, concept, or belief can have moral implications? If so, what kinds of origins are morally relevant and what kinds aren't? Can you find a principle to distinguish one kind from the other?

(Optional: The Naturalistic Fallacy in Moral Philosophy)

While the appeal to nature fallacy concerns arguments for the morality of *P* on the basis of *P*'s natural origins, the Naturalistic Fallacy concerns arguments that rely upon or conclude in a definition of morality itself as a natural property. So whereas the appeal to nature fallacy involved the faulty inference "*P* is morally acceptable, because *P* is natural", the Naturalistic Fallacy involves an inference more along the lines of "*P* is morally acceptable, because that which is pleasurable is *by*

definition what is morally acceptable, and *P* is pleasurable." The faulty inference in the naturalistic fallacy arises from the second premise which states that pleasure *constitutes* moral acceptability.

When we talk about evaluation, we often use terms like 'good', 'bad', 'evil', 'right', 'wrong', and so forth to characterize an action or an agent. When we say "charity is good.", we are morally evaluating philanthropy – we are saying of the act of giving to charities that it is morally good. Now suppose we say something like "Pleasure is good." We can take this statement to mean one of two things: (1) whatever causes pleasure is good and whatever is good causes pleasure (in other words, 'pleasure' and 'good' have the same extension); (2) 'pleasure' *literally means* 'good'. We might agree or disagree with (1) and have an interesting philosophical discussion about it, but if we take "Pleasure is good." to mean (2), we are committing the naturalistic fallacy: *we cannot define 'good' as any other natural property* (explained below), *even if we agree that (1) is true*. This extends to all evaluative terms: they cannot be defined in terms of other properties *just* because the two concepts might have the same extension.

Why would someone endorse this? The broad idea is that evaluative terms and natural properties are different *kinds* of concepts. We call something a natural property if it is a fundamental, basic, primitive feature of a thing (this definition itself is widely contested and nuanced, but accept this rough statement of it for now). As such, natural properties are *factual*, or *descriptive*; they refer to how things *are*, as opposed to evaluative terms, which refer to and express commitments about how things *ought to be*. Since they are different kinds of concepts, we cannot get from a natural property to an evaluative conclusion. As a (very) rough analogy, you cannot use "Apples are red." to infer "Eating apples is morally right." – these are statements about different *kinds* of things. Evaluative terms are thus considered *irreducible* and any attempt to reduce them thereof is considered as an instance of the naturalistic fallacy. It goes without saying that this claim itself, and therefore the status of the naturalistic fallacy *as* a fallacy, is exceptionally contested.

II. Examples

Let's look at a few subtler instances of appeals to origins that do not count as genetic fallacies. Suppose your friend, who thieves constantly, brings you a really nice watch for your birthday and says "I bought you this watch." The origin of the gifted watch is a (pathologically) unreliable source. Therefore, the claim "The watch that my friend gave me might be stolen." *is*, in this case, supported by the origins of the gift – given that your friend is a regular thief, it is quite likely that they stole the watch. Although we have appealed to origins, we have hereby avoided the genetic fallacy. However, in the same hypothetical scenario, we *would* be guilty of this fallacy if we had inferred the stronger claim "The watch that my friend gave me *must* be stolen." As a rule of thumb: even in cases where the origins of some belief, object, or concept might be relevant to some statement about it, that statement can *at best* be a **possibility** claim (as opposed to a **necessity** claim).

Sometimes, the matter might not be this clear; there are, as is often the case, borderline cases. In some situations, there may be meaningful, non-trivial debates to be had about whether the

origins of a belief, object, or concept are relevant or not to a particular conclusion about it. For example, consider the following argument, where the first sentence is an appeal to origins: "Originally, the function of the double bass was only that of a backing instrument. Therefore, we shouldn't incorporate double bass solos in contemporary music." Even if both people accept the description of the origins of the double bass as true, it is open to discussion whether that should have any bearing on our current musical practice. Some people think that bass solos (electric or otherwise) have no room in, say, jazz, exactly because they think that this goes against the original design of the instrument. Some people, however, disagree with this. We can see that there is a meaningful debate to be had about whether this appeal to the double bass's origins is relevant today or not. If we think that it *is* relevant, then no genetic fallacy has been committed; if we think that it *isn't* relevant, then a genetic fallacy has been committed. However, since this is very much up for debate in this situation, it counts as a *borderline case*.

(Alternative) "Originally, mathematical arguments did not use any formal symbolization whatsoever, instead relying on prose to convey their conclusions. Therefore, we should exclude all formal symbolization from mathematical arguments." Even if both people accept the appeal to the origins of mathematical practice as true, it is open to discussion whether it should have (or has) any bearing on our *current* mathematical practice. If it does not, then a genetic fallacy has been committed; if it does, then no genetic fallacy has been committed. However, this is up for debate – it is a borderline case.

[Activity] Now that you have looked at an example, can you find more such borderline cases where the origins of a belief, object, or concept may be logically relevant to a conclusion about its current status?

Now let's look at an illustrative example of the appeal to nature fallacy. "Killing individuals with whom some organism competes for food is natural. Therefore, killing individuals with whom some organism competes for food is morally acceptable." It *is* the case that, in nature, many animals kill their competitors in order to secure food. However, this obviously does not support the conclusion that it is also morally acceptable to do so. Technically, it would be possible for someone to endorse some moral framework with the claim that *all natural things are good* as one of its tenets. However, very few people (if any), would do so. As the above example shows, having such a picture of morality would commit one to some pretty outlandish claims. A strategy could be to define 'natural' in such a way that extreme cases like the previous one would be avoided. However, it is hard to see how such a definition of nature would still be informative in any way. The further one would go trying to defend the view that all natural things are good (if one wanted to do so, for some strange reason), the less sense the resulting moral framework would make.

[Activity] The particular fallacies we have looked at in this lesson, as fallacies, clearly lead to faulty arguments. However, they can also be quite subtle and hard to spot. Using what you now know about them, have you ever been persuaded by an argument containing one of these fallacies? If so, how? Furthermore, do you think it could be useful to *knowingly* make such fallacies in certain contexts? If so, what would these contexts be? Discuss with a partner!

[Activity] We commonly cite the causes of something in order to explain something else about it – even though, as we have seen, appealing to causes can lead to faulty arguments. For example, if I want to explain to someone why my bedroom window is broken, I would cite what caused it to break: my friend threw a rock at it. One area where causal explanations are particularly important is natural science. What do you think it is about causes that gives them this explanatory power? Do you think we can have non-causal explanations (i.e. explanations that successfully answer a 'why' question, but that do not appeal to any cause)? Discuss with a partner!

III. Exercises

Exercise 1

Explain the differences between the genetic fallacy and the appeal to nature fallacy in your own words.

Exercise 2

Identify whether the following examples are instances of *non causa pro causa*, of the genetic fallacy, or of the appeal to nature fallacy.

a) Sandwiches were invented by John Montagu, the 4th Earl of Sandwich, who asked his valet to bring him meat tucked in between pieces of bread so that he could play cards and eat at the same time without getting his hands dirty. Therefore, any sandwich that gets your hands dirty is not actually a sandwich.
b) A recent study shows that some people who drink milk between the ages of 5 and 7 develop insomnia after the age of 50. We can conclude that anyone over 50 who suffers from insomnia must have consumed milk between the ages of 5 and 7.
c) Animals that give birth to more cubs than they can feed kill off the surplus. Therefore, it is morally acceptable to kill children we cannot nourish.
d) Beth got the idea to buy her friend, Claire, a laptop for her birthday from a billboard. Therefore, Beth buying a laptop for her friend Claire's birthday is a shallow gesture.
e) Whenever I go to bed, the sun sets. Therefore, my going to bed causes the sun to set.

Exercise 3

Come up with your own examples of one *non causa pro causa* fallacy, one genetic fallacy, and one appeal to nature fallacy.

Exercise 4

(Challenge) Suppose someone makes the following argument: "Maple syrup is poured over pancakes. Therefore, maple syrup ought to be poured over pancakes." Of the fallacies covered in this lesson, which one is this argument closest to? Why? Is this argument identical to the fallacy you have identified? Can you think of a

counterexample where we can logically infer how something ought to be on the basis of how it is? [Hint: Think of promises].

IV. Conclusion

This lesson has covered the *non causa pro causa*, genetic, and naturalistic/appeal to nature fallacies. In each case, we have looked at practical instances where such fallacies may occur. However, we need to be careful. Each of them comes packed with a fair share of case-based nuances. Sometimes, there *is* a causal connection between events that have been observed to happen together frequently – perhaps, throwing a rock at a piece of cracked glass causing the glass to shatter. Sometimes, origins *are* relevant to certain conclusions. The main takeaway is that these fallacies are not to be applied as blanket counterarguments to any causal argument whatsoever.

V. Lesson Goals

At the end of this lesson, students will be able to:

- define four new types of fallacies: *non causa pro causa*, genetic, appeal to nature, and (optionally) naturalistic;
- understand the nuances of application for each;
- identify instances of each fallacy in practice;
- construct their own examples of each fallacy;
- (optionally) contrast normative claims with descriptive claims;
- (optionally) define a natural property in rough terms;
- (optionally) define the is-ought gap in rough terms.

Answer key:

1. The genetic fallacy occurs when the origins of some belief, object, or concept are brought up to support some conclusion about it, although they are irrelevant to the proposed conclusion. The appeal to nature fallacy is a special case of the genetic fallacy, whereby the particular origins being invoked pertain to nature and the conclusion purports to establish a fact about moral acceptability.

2. a) genetic fallacy; b) *non causa pro causa*; c) appeal to nature fallacy; d) genetic fallacy; e) *non causa pro causa*

3. Answers may vary.

4. This is closest to the naturalistic fallacy because an evaluative/normative conclusion is inferred from a descriptive fact. It is not exactly identical to the naturalistic fallacy because the conclusion does not attempt to reduce a normative term to some natural property *per se*. This is called the *is-ought gap*. A counterexample could be the following. "Beth promised Claire to help her move out. Therefore, Beth ought to help Claire move out."