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Causation

In the paper causation David Lewis writes about causation and causal dependence. He confines himself in four ways: 1) He confines himself to speaking about '*events'* in the everyday sense of the word. 2) It is not an analysis of causal generalizations. 3) He does not concern himself with the 'real' cause and the analysis is meant to capture a broad and non-discriminatory concept of causation. 4) He is content to give an analysis that works properly under determinism. Using these constraints, he distinguishes causation from causal dependence. Lewis defines a cause as an object (event) followed by another. The way that he distinguishes causation from causal dependence is by using the counter-factual account of the argument, if *c* did not occur neither would have *e,* as an intrinsic property of causal dependence. This is to say that if an effect *e* could occur without the occurrence of the cause *c* then the cause *c,* could be one of many causes of the event but would not have causal dependence relationship. The example that Lewis uses in his paper is the causal dependence relationship between a barometer and the pressure surrounding the instrument. If the increased pressure surrounding the instrument is the cause *c* of the barometer pressure reading increasing *e* then *c* is the cause of *e.* But if there were no air pressure increase then there would be no barometer reading increase suggesting a causal dependence of *c* to *e*. In his example of the case where there is a cause/effect relationship, but it is not one of causal dependence, the counterfactual is not true. The example he used is the relationship between planetary motion and the laws of gravity. He says that the laws of gravity are the cause of planetary motion but in a world with different laws of gravity with similar laws of planetary motion the similar laws may not be the cause of the planetary motion. This is because, as he also stated in the in paper, there can be a causal chain where the cause *c,* causes an intermediate cause *d,* which then causes the effect *e*. In this case although *c* was the cause of the effect *e,* through the causal chain, e is not dependent on the cause *c* but instead is more dependent on the cause *d.* Cause *d* could initiate effect *e* but could have been initiated itself by cause *b, or cause a, etc.*

Lewis believes that this distinction is needed because causation is transitive and casual dependence is not. The argument that I would give to dispute causation being transitive would apply the casual chain. Although Lewis constrains himself to not concerning about the 'real' cause, there can be an infinite number of events within the causal chain that could affect the transitive property of a cause. Every cause/effect relationship without causal dependence could be affected by an unknown outside cause not unknown to the situation, causing the cause to become non-transitive. For example, if you are burning a log and the log catches on fire, there are many cases where you can burn a log for a long period of time where the long would never catch on fire, such as if the log was wet, or if the oxygen concentration in the room is insufficient. In this situation there would be a cause *c* that could have many different outcomes, the log burning to ash instead of catching fire e_1, or the flame simply going out e_2, etc. The strongest way that I think that Lewis would respond to this argument is that causation is still transitive even using that logic. Because although the cause *c* may or may not cause effect e_1 it still may cause effect e_2 which in turns causes effect f_2. Overall, I appreciate Lewis's differentiation of causation and causal dependence. I think that is important to distinguish not because of the transitive property of the two but I think that it is important because of number 3 of Lewis's constraints. I think that the property of casual dependence is an excellent tool for determining the 'real' or 'principal' cause.