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Abstract

Distinguishing necessary and sufficient conditions can be challenging to undergraduate logic and critical thinking students. Explaining J. L. Mackie's notion of INUS conditions—insufficient but necessary parts of unnecessary but sufficient conditions—is an even more difficult concept to understand. It is helpful to have memorable examples that not only clarify the concept, but make it easy to remember. Law student turned stand-up comedian Demetri Martin uses necessary, sufficient, and INUS conditions to construct absurdist jokes. These jokes provide effective tools for making Mackie's notion understandable and memorable.

Keywords

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Abstract: Distinguishing necessary and sufficient conditions can be challenging to undergraduate logic and critical thinking students. Explaining J. L. Mackie's notion of INUS conditions—insufficient but necessary parts of unnecessary but sufficient conditions—is an even more difficult concept to understand. It is helpful to have memorable examples that not only clarify the concept, but make it easy to remember. Law student turned stand-up comedian Demetri Martin uses necessary, sufficient, and INUS conditions to construct absurdist jokes. These jokes provide effective tools for making Mackie's notion understandable and memorable.

Acommon fallacy is mistaking a necessary for a sufficient condition. For students to be able to identify this error, it is a necessary (but not sufficient) condition that they understand the difference between necessary and sufficient conditions. For years, when teaching this in my critical thinking class, I did what many others do. I explained the difference as clearly as I could in simple terms. I reinforced this by illustrating the concepts with the most straightforward and memorable examples I could find. I gave them plenty of in-class and take-home exercises, ultimately assessing them with quizzes and exams full of similar sorts of exercises to see if they did, in fact, grasp the concepts. I had them to consider the difference between "There is fire in this room, so there is oxygen in this room" and "There is oxygen is this room, so there is fire in this room." Or notice the difference between "Elise ate a pound of arsenic, therefore Elise is dead" and "Elise is dead, therefore Elise ate a pound of arsenic."

Many got it. But not all. Students who were confused, or those who simply did not care to actually comprehend the material, looked for tricks that would allow them to get the answers correct on the quiz, even if they did not understand the concepts fully. One such gimmick was to determine if there were multiple causally operative conditions. If so, they reasoned, then each mentioned causally operative condition must be a necessary condition. If, on the other hand, there was only a single causally operative condition, it must be a sufficient condition. For the sorts of simple examples I had been putting on the assessments, the trick does generally work. "My roommate cannot figure out why her plant is dying, she waters it and gives it sunlight every day." Water and sunlight are both part of what keeps a plant alive, so they must be necessary conditions. "Writing a large personal check to my instructor will get me an A in critical thinking, that involves only a single causally operative factor, so it must be a sufficient condition." (This is, of course, only an example. My students *cannot* get an A in the class by writing large personal checks. I only accept cash.)

While this trick may be effective for classroom exercises, it fails in the real world. When I have tried to explain why this was the case to those students relying on it, they would protest with a simplified understanding of necessity and sufficiency according to which whenever several factors combined to produce something, those conditions are necessary and when there was a sufficient condition, it alone was needed.

It is, of course, more complicated than that. It is very much possible, indeed, common, to have multiple causally operative factors that are *not* necessary conditions. In his famous 1965 paper "Causes and Conditions," J. L. Mackie explains the notion of INUS conditions, that is, insufficient but necessary parts of unnecessary but sufficient conditions. Mackie invites us to consider a house fire that investigators conclude was caused by an electrical short-circuit at the particular location in the house's wiring.

In making this claim, Mackie says, "Clearly the experts are not saying that the short-circuit was a necessary condition for the house's catching fire at this time." There are a range of other possibilities that might have been responsible for the fire: a forgotten pan on the stove, someone falling asleep while smoking, an unattended space heater, a lightning strike, arson, or a different short-circuit elsewhere in the wiring. Since the house could catch fire in other ways, this short-circuit at this point in the wiring is not a necessary condition for the fire that, in fact, resulted.

But neither is it a sufficient condition. "[F]or if the short-circuit had occurred, but there had been no inflammable material nearby, the fire would not have broken out, and even given both the short-circuit and the inflammable material, the fire would not have occurred if, say, there had been an efficient automatic sprinkler at just the right spot" (245). The short-circuit was certainly an essential part of the causal account by

which the house fire is explained, that is, it is a condition of some sort. But we cannot say that it is either a necessary or a sufficient condition. What sort of condition is it, then?

It is, Mackie, tells us an insufficient, but necessary part of an unnecessary but sufficient condition. Abbreviating this clunky construction, he refers to it as an INUS condition.

> [T]here is a set of conditions (of which some are positive and some are negative), including the presence of inflammable material, the absence of a suitably placed sprinkler, and no doubt quite a number of others, which combined with the short-circuit constituted a complex condition that was sufficient for the house's catching fire – sufficient, but not necessary, for the fire could have started in other ways. Also, of *this* complex condition, the short circuit was an indispensable part: the other parts of this condition, conjoined with one another in the absence of the short-circuit, would not have produced the fire. The short-circuit which is said to have caused the fire is thus an indispensable part of a complex sufficient (but not necessary) condition of the fire. In this case, the so-called cause is, and is known to be, an *insufficient* but *necessary* part of a condition which is itself *unnecessary* but *sufficient* for the result…let us call such a condition (from the first letters of the words italicized above) an INUS condition. (Mackie 1965: 245)

Mackie's notion of INUS conditions shows why the student trick for answering quiz and exam questions fails. Just because a condition is part of a constellation of causally-relevant factors does not mean that must be is a necessary condition.

Trying to explain that the situation is a little more complicated than the oversimplified student understanding would inevitably yield frustration on the faces of the students who were working hard to understand the concepts and thought they had a grasp only to then be told they were confused. I would then work through Mackie's housefire example again, this time more slowly. While that would be sufficient in some cases, it only exacerbated the frustration in others.

Perhaps something more lighthearted would be helpful, I thought. On the day when I would explain this to the class, I would stop at a convenience store just off campus and purchase a ticket for one of the multi-state lotto drawings. I would show the ticket to the class and tell them that if the number of this ticket is drawn this week, I would become a multi-millionaire and retire rich and happy at the end of the semester. In my overwhelming joy and in anticipation of retirement, I would cease all grading immediately and simply give everyone A's. After all, what are they going to do, fire me? I would then ask them, is my buying of the ticket necessary for you getting an A in my class? No. There are others ways that students could earn the top mark. You could work hard, do well on assignments, and get an A the old-fashioned way. Nor, I would point out, is my purchasing the ticket a sufficient condition for your getting an A. If your roommate asked you why you are

not doing your critical thinking homework and you explained that your professor bought a lottery ticket, your roommate would do well to not only encourage you to continue your informal logic studies, but perhaps to also take a course in statistics. This new example worked better, but still not entirely satisfactory.

Then, driving to campus one morning, listening to a radio comedy channel and enjoying one of my favorite contemporary stand-up comedians, Demetri Martin, I realized that his humor offered a better approach. Martin was two-thirds of the way through law school when he dropped out to take up comedy fulltime. His background in law and a proclivity for linguistic cleverness makes his material perfect for teaching logical concepts.

I start with his joke about vests to explain sufficient conditions:

> I think vests are all about protection. Like the life vest protects you from drowning, the bullet-proof vest protects you from getting shot, and the sweater vest protects you from pretty girls. (Martin 2006)

Wearing a life vest is sufficient to keep from drowning. If you wear the life vest, you will not drown. It is not a necessary condition because you could avoid drowning in other ways, say, by becoming a strong swimmer or avoiding water. So, we have a sufficient condition but not a necessary condition.

We then move to a joke that illustrates necessary conditions:

> There's a saying that goes, "People who live in glass houses should not throw stones." Ok., how about "Nobody should throw stones." That's crappy behavior. My policy is "No throwing stones regardless of housing situation." Don't do it. There is one exception, though. That's if you are trapped in a glass house. In that case, you should definitely throw the stone. So, the real saying should be "Only people in glass houses should throw stones, but only if they are trapped." (Martin 2007)

We now have two things to point out. Being in a glass house is a necessary condition for being allowed to throw a stone. But while it is necessary, it is not sufficient. If the glass door is open so that you are not trapped in the house, then the condition is not enough to justify the throw.

So, we have a funny example of a condition that is sufficient, but not necessary and another that is necessary, but not sufficient. Martin also gives us a joke that allows us to understand INUS conditions.

> I was at a party the other night and I saw a guy wearing a leather jacket and I thought, "That is cool." Like ten minutes later, I saw a guy wearing a leather vest and I thought "That is not cool." And that is when I realized that cool is all about leather sleeves. (Martin 2004)

It was a joke built around mistaking an INUS condition for a sufficient condition. Let us unpack this slowly.

First, we have the claim that wearing a leather jacket makes you cool. In other words, wearing a leather jacket is a sufficient condition for coolness. It is, by itself, enough to make you cool. It is not claimed that it is the only way to be cool, so wearing a leather jacket is a sufficient, but not necessary condition for coolness.

We then have wearing a leather vest as sufficient, but not necessary for being uncool. The reasoning works the same way for this as for the leather jacket.

The difference in composition between a jacket and a vest is sleeves, and the difference in effect between wearing a jacket and a vest is coolness. Hence, Martin fallaciously infers that "Cool is all about leather sleeves," But, of course, it is not. A person walking around with no shirt and leather sleeves would be extremely uncool, thus the joke. But from the set up, we have a sufficient condition for being cool, that is, wearing a leather jacket. Wearing leather sleeves is a necessary part of wearing a leather jacket. It is insufficient of itself, but a necessary part of a condition that is sufficient, but not necessary. Leather sleeves are not a sufficient condition as the joke tries to claim, but are, in fact, an INUS condition for coolness.

Playing these comedy clips and working through the internal logic allows students who would otherwise resist the lesson to relax and enjoy it, making them more open to understanding. When we hear a joke we like, we want to remember it. Hence, the students now have a handle on the concepts more likely to make them stick in the memory. In this way, the students are both less likely to rely on the problematic trick that keeps them from being motivated to understand the concepts and less frequently become frustrated at the additional twist of Mackie's INUS conditions.

References

Mackie, J. L. (1965). Causes and conditions. *American Philosophical Quarterly*, *2*(4), 245–264.
Martin, D. (2004). *Comedy Central Presents: Demetri Martin.* March 19.
Martin, D. (2006). *These Are Jokes.* Comedy Central Records.
Martin, D. (2007). *Person.* Paramount Home Video.