The *Causal Closure of the Physical Domain* principlee states that 'if a physical event has a cause occurring at time *t*, it has a sufficient physical cause at *t*.'[i] In other words, the cause of physical event *p* (if *p* even has a cause) will be found within the physical domain of things. Call this claim 1. Mental to physical causation requires that there be some mental event m_c that causes some physical event *p*, e.g., my desire for chocolate causes my hands to move to the candy bar. Call this claim 2. According to claim 1, however, since physical event *p* has a cause, such a cause must also be some physical cause p_c. Thus claims 1 and claims 2 entails either that mental cause, m_c, is identical to physical cause, p_c, or that physical event *p* is caused by both m_c and p_c.

The first option does not seem feasible. If $m_c=p_c$, then m_c causing p would be not be an instance of mental-to-physical causation, but rather just physical-to-physical causation. In other words, we would not really have a desire causing my hand to move, but some physical state of me like some neurons firing causing my hand to move. So, genuine mental causation requires that mental states not be identical to physical states, i.e., it is not the case that $m_c=p_c$. Call this claim 3.

Claims 1-3 force us to accept the second option just mentioned, namely, that *p* has both a sufficient physical cause and mental cause. In this case, we have a case of what is called *causal overdetermination*. Causal overdetermination happens when we have the occurrence of two independently sufficient causes for the same particular effect. One such example is two bullets hitting a person in the back of his skull at the same time. Each bullet is sufficient by itself to cause the person's death. If both bullets caused the person's death, this would be a genuine overdetermination. Could mental causation be a genuine case of overdetermination, i.e., could *p* have a distinct sufficient mental and physical cause? If it is a genuine case of overdetermination, mental causation is frivolous in the sense that the physical cause p_c would have brought about the

physical event p even if the mental cause m_c did not occur, e.g., whether I desire chocolate or not, some brain state like a neuron firing would cause my hand to move to the candy bar. For while there could be a physical cause of my hand moving without there also being a mental cause, claim 1 entails that there cannot be a mental cause of my hand moving without there also being a sufficient physical cause of my hand moving. Since mental-to-physical causation requires the mind to have some causal influence (claim 2), this shows that mental-to-physical causation cannot be a genuine case of causal overdetermination. Call this claim 4. Claims 1-4 contradict each other, so at least one of these claims is false.

I think we should reject claim 3. The argument assumes that if a mental state is identical to a physical state, then that physical state would have to be something like a state of the brain. But if we take mental events as capacities or patterns of some kind of brain processes, it would not take us out of the physical domain. If we define mental events as job descriptions, we see that it would not be a problem if said events fell within the physical domain. And why wouldn't it? Recall the functionalist claim that said mental events require a physical realizer. That is, in order to be actualized these mental events, or job descriptions, require a physical property to be first realized. So we see that when we view mental events in this way, there exist no contraries to the causal closure of the physical domain principle. Everything fits under the umbrella that is the physical domain; there exist no immaterial, nonphysical event or entity involved in the picture, because the mental event is just a capacity of the physical realizers.

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[i] Kim, "Philosophy of Mind" pp. 195