

Overdetermination when Carrying Out an Intention: Ludwig and Blomberg on the Sole Agency Requirement

Abstract: Consider the following scenario: agent 007 poisons his nemesis food, Aristotle Kristatos, and unknown to him, 006 poisons Aristotle Kristatos' food as well, and Aristotle Kristatos dies. If 007 says "I killed Aristotle Kristatos" is he saying something true or false? Ludwig (2016, 2019) holds he would say something false. Moreover, Ludwig holds that neither 007, nor 006 executed their intention successfully. He argues that an action intended to be individual, excludes any co-agent (the sole agency requirement). Bloomberg (2019) argues against the sole agency requirement, and that both 007 and 006 executed their intention successfully. I side with Bloomberg and argue that since the example is a case of overdetermination, 007 (and 006) utters something true and both agents carried out their intention successfully. Ludwig (2019) argues that this case is similar with a wayward causal chain. I argue, on the contrary, that it is not and that 007 and 006's causal chains are disjoint. However, I argue that a modal formulation of the sole agency requirement can be compatible with 007 uttering something true and successfully executing his intention. Finally, I consider a critique to the modal formulation of the sole agency requirement and provide an answer to it.

Keywords: Intention, Singular action sentences, Sole agency requirement, Overdetermination, Wayward causal chain.

1. Introduction

Let's suppose there are two agents: 007 and 006 for instance. Let's also suppose that, unlike in the 007's fictional universe, we have just one villain, Aristotle Kristatos. The course of events leads to the following situation. 007 poisons Aristotle Kristatos and he reports to M: "I killed Aristotle Kristatos". However, 006 poisons Aristotle Kristatos as well and he reports to M: "I killed Aristotle Kristatos". To make the case more difficult for M, we must know that each agent administers a concentration of poison sufficient to kill the villain and that the two agents act unknown to one another. If the agents were promised a promotion for killing Aristotle Kristatos, then M would have some difficulties in deciding who will be the one to get it. However, when 007 or 006 says "I killed Aristotle Kristatos" are they saying

something true or false? What if 007 would tell us „I intended to kill Aristotle Kristatos”, would we answer something of the following: “You failed when pursuing your intention” or would we describe both 007 and 006 as successfully carrying out their intention? Would we be right to do so? Furthermore, what answer would we provide when asked whether both agents should get to claim the deed, or neither of them?

In this paper I discuss Kirk Ludwig’s (2016, 2019) negative answer to these questions. I will discuss his puzzling answers constrained by his view on collective actions. I will argue that both 007 and 006 would utter something true when saying “I killed Aristotle Kristatos”, that we would be wrong to answer that 007 or 006 failed when pursuing their intention, and that the two successfully carried out their intention.

The structure of the paper has three main coordinates. First, in sections 2 and 3 I discuss the theoretical framework Ludwig provides in order to account for collective actions. Here I follow the background that compels Ludwig to answer that neither 007, nor 006 are successfully carrying out their intention. Second, I discuss in sections 4 and 5 the debate between Ludwig and Bloomberg. Ludwig’s (2016, p. 105) answer to the puzzling example was discussed in Bloomberg’s (2019) and Ludwig (2019). Bloomberg argues that Ludwig provides an unintuitive answer to the problem. Ludwig’s answer to the questions is based on his sole agency requirement. The requirement says that if I say “I cooked dinner”, then I am the only agent who performed the primitive actions that bring about the dinner preparation. Thus, neither 007, nor 006 is successful in carrying out their intention because they are both intending to perform the action, i.e. to poison Aristotle Kristatos. Bloomberg argues that the agents example is problematic for the sole agency requirement. He argues that it is not semantically implied, but just pragmatically. Third, in Section 6, I side with Bloomberg and I argue that the sole agency requirement is too strong. I argue that the case of the two agents is indeed a counterexample against the sole agency requirement, or at least a problematic case. However, in Section 7, I look at some alternative formulation for the sole agency requirement. In sections 8 and 9, I consider a critique to the alternative formulation and a possible answer to it.

2. Ludwig’s Account of Collective Action

Ludwig (2016)¹ provides an account of collective actions meant to eliminate any commitment to an agent over and above the individual agents participating in a common action. His main method is the logical analysis of plural action sentences which shows that we are not committed to any group agent, and that our ordinary talk does not imply such a commitment (Ludwig 2016, p. 127). His focus here is on the thesis that there are no group agents, that collective actions do not imply a collective agent. Ludwig (2019) shifts the focus on the idea of collective action, and he rephrases the thesis in the following way: collective actions are not actions *per se*, i.e. they are not actions in the primary and nonderivative way. The thesis can also be rephrased as: only individual actions are actions *per se*, in the primary and nonderivative way. The backbone of his argument is the following: There are no group agents because there are no collective actions in the primary sense. Collective actions are expressed in plural action sentences. There are two readings of plural action sentences, the distributive reading and the collective reading. The collective reading does not entail the distributive reading. If the collective reading would entail it, collective actions would be actions in the primary sense, and they are not.

His method of logical analysis is first applied on individual action sentences². Given the sentence “I prepared dinner”, it receives the following analysis (Ludwig 2019, p. 126): There is a certain event, the primitive action/s and a certain time previous to the time of uttering such that a) I am the agent of the primitive action/s at the certain previous time, b) the primitive action/s bring/s about the event directly, c) I am the only agent of any primitive action at any previous time that brings about the certain event directly, d) the event is preparing the dinner. In this analysis, Ludwig also formulates the sole agency requirement in clause c). The main idea is that the event of preparing the dinner is a result of the primitive actions of just one agent if the sentence is a singular action sentence.

Given a plural action sentence such as “We prepared dinner”, Ludwig argues that we can have a distributive reading and a collective reading. Let’s start with the distributive reading. In a less formal way, the distributive reading of “We prepared dinner” tells us that each of us prepared her own dinner, that we each acted separately. In Ludwig’s (2019, p. 127)

¹ Kirk Ludwig provides an extensive analysis of action sentences in a two-volume book. Starting with an analysis of individual action sentences, he builds upon it the analysis of plural action sentences (Ludwig 2016). This analysis, in its turn, constitutes the basis for the analysis of sentences expressing actions performed by institutions (Ludwig 2017).

² In (Ludwig 2019) we can find a compressed logical analysis. Unlike in the (Ludwig 2016) variant in which the analysis is spread on several pages, the summarisation provided in his 2019 paper is easier to follow.

analysis, we have the following decomposition: each of us is such that there is an event of preparing the dinner, the primitive action/s and the time previous to the time of uttering, such that each of us is an agent of the primitive action/s at a certain previous time, the primitive actions bring about the preparation of dinner directly and each of us is the only agent of the primitive action/s which brought about the preparation of dinner.

The collective reading of “We prepared dinner” delivers the following understanding of the sentence (Ludwig 2019, p. 128): the fact that we prepared dinner together. Thus, it describes a common activity to which we participated together. The logical decomposition Ludwig provides is the following. There is the event of preparing the dinner such that for each of us there is the event of preparing dinner, the primitive actions and the time previous to the time of uttering. Then, each of us is the agent of her primitive actions at that previous time, the sum of our primitive actions brings about the event of preparing dinner directly, there is no one else whose primitive actions contribute to that sum which brings about directly the preparation of dinner.

The main point Ludwig (2016, 2019) argues for is that the collective reading of plural action sentences does not entail the distributive reading. Since it does not entail it, then collective actions are not actions *per se*.

Given Ludwig’s logical analysis, why does not the collective reading entail the distributive reading?³ In the distributive reading, what is implied is the fact that each agent performs a primitive action, and that the primitive action brings about the event. Each agent, for instance performs the primitive actions of her bodily movement that bring about the dinner preparation, independent from other agents. And here we have the sole agency requirement: each of us is the sole agent of the primitive action which brings about the event. However, in the collective reading, the primitive actions of the agents bring about together the event of dinner preparation, they are co-agents. Thus, the collective reading is based on co-agency, while the distributive reading excludes co-agency, given the sole agency requirement.

3. Some Key Concepts in Ludwig’s Account and How They Work

This is the general context of Ludwig’s account of collective actions, however it is still not clear why Ludwig considers that neither 007, nor 006 carry out their intentions

³ See (Ludwig 2019, p. 137)

successfully. Some key concepts Ludwig uses must be presented in order to make the answer clearer.

His view is influenced by Davidson's approach to actions. Davidson (2001a, pp. 55, 59) argues that actions are events caused by our primitive actions. Primitive actions are our intentional bodily movements. What is specific to primitive actions is that they are not mediated by other actions.

Central in Ludwig's (2016, p. 74)⁴ account is the idea that a primitive action brings about an event directly, that is, the primitive actions consisting of the agent's bodily movements cause the event and the event is not mediated by another co-agent. For instance, if the godfather of a mobsters group orders that someone is killed, the primitive actions of the godfather directly bring about the event of giving the order, and not the event of killing. The killing is the event brought about directly by the lieutenant's primitive actions.

Three other key concepts are "prior intention", "intention-in-action" and "wayward causal chain"⁵. The prior intention of an agent is the intention which is "directed towards a future action" (Ludwig 2016, p. 41). One of the prior intentions I had this morning was to go to the library. The intention-in-action is the intention directed towards the action when it is performed (Ludwig 2016, p. 43): the intention-in-action to open the door, the intention-in-action to leave home, the intention-in-action to walk towards the library etc. My prior intention to go to the library is satisfied if my arriving at the library is the result of the causal chain of actions I perform and I had the intention to perform. However, we also have wayward causal chains, when the results correspond to my prior intention, but which, nonetheless, are brought about by other actions or events which do not correspond to the way I planned to perform the action (Ludwig 2016, p. 90). For instance, if I have the prior intention to shoot at a target, then my intention-in-action determines my pointing the gun at the target and pressing the trigger and if nothing interferes, my action is completed. However, consider that when shooting at the target I faint, since I have never held a gun, and the bullet hits some strong metal that determines it to rebound to the target, then we have a wayward causal chain. The result corresponds to my prior intention, but not as a result of my primitive actions and the satisfaction of my intention-in-action.

⁴ The term used in (Ludwig 2016, p. 74) is "directly-causes", while in (Ludwig 2019, p. 126), he uses "bring about directly".

⁵ (Ludwig 2016) uses "deviant causal chain". I kept Davidson's (2001b) initial label.

Given the conceptual background, we can go further to the paragraph concerning the two assassins in (Ludwig 2016) that bothered Blomberg (2019).

Here there is a temptation to say that they were both successful, for one wants to say that nothing went wrong with their plans. Yet, though each intended that *he* poison the victim, in point of fact they poisoned the victim together, if not intentionally. Neither gets to claim that he did it, that is, is the sole agent of the event in the relevant way. It is not their individual *plans* that go awry. It is rather that whereas each intends to be *the agent* of the death by way of the victim's consuming poisoned soup, neither is. (Ludwig 2016, p. 105)

Ludwig would consider that 007 utters something false when saying "I killed Aristotle Kristatos", and that our description that 007 carried out his intention successfully is wrong. Here we should see the key concepts at work in justifying the answer. Singular action sentences embed the sole agency requirement which compels the agent to be the sole agent who performs the primitive actions which directly bring about the event, in this case, the event of killing Aristotle Kristatos. 007 is not the only agent whose primitive actions bring about directly the event of killing Aristotle Kristatos, since 006's primitive actions bring about the event directly as well. Thus, 007 utters something false when saying "I killed Aristotle Kristatos". Also, if he would say "I intended to kill Aristotle Kristatos", we should say that he failed. Moreover, our description of his actions as successfully carrying out their intention is also false.

007's prior intention of the action, his I-intention from "I intend to kill Aristotle Kristatos" excluded co-agency. Why? For an intention to be successfully executed, in this case, his I-intention, his intention-in-action must be executed in accordance with a plan. The result is not the only element to tell us that the intention was carried out successfully, acting in accordance with a plan is also necessary. In addition, the satisfaction of the sole agency requirement for a successful execution of an intention is also necessary. In this case 007 acted in accordance with the plan, his primitive actions directly caused the event of killing Aristotle Kristatos, but his intention was not executed successfully, because 006 was a co-agent. Thus, Ludwig would say that 007 says something false when saying "I killed Aristotle Kristatos",

that we should correct him and tell him that he did not carry out his intentions successfully, and that neither agent gets to claim the deed.

4. Bloomberg's Answer

Bloomberg (2019) reacts to Ludwig (2016) and argues that there are collective primitive actions, that composite primitive actions are also actions in the primary sense, and that the sole agency requirement is not semantically implied by singular actions sentences. Thus, for Bloomberg, the truth of the singular action sentence does not require there is only one agent and that any co-agent is excluded in order to be true. Bloomberg argues that this requirement is not semantically implied, but pragmatically implied. Thus, the content of an I-intention to do something does not exclude the participation of a co-agent. Given this setting, Bloomberg would say that 007 says something true when he says "I killed Aristotle Kristatos". Moreover, knowing that 006 poisoned Aristotle Kristatos' coffee as well, we should not correct 007 by telling him that he failed when pursuing his intention and we would be right to describe him as successfully carrying out his intention.

Bloomberg discusses (a version of) this example directly and argues that "the temptation to say that both assassins were successful should not be resisted" (Bloomberg 2019, p. 120). His argument goes as follows: we should replace 006 contribution with "similar non-agential causal contributions" (Bloomberg 2019, p. 121). First, replace 006, with a cook's clumsiness who also pours poison in the soup. Then, replace the cook's clumsiness with a random metaphysically possible chemical reaction that doubles the quantity of poison that 007 pours into Aristotle Kristatos' soup. Bloomberg's conclusion is that the sole agency requirement is fulfilled and 007 would execute his intention successfully in the latter case. But this is problematic for Ludwig, since there is no fundamental difference between the situation in which 006 pours the poison too.

5. Ludwig Fights Back

Ludwig (2019, p. 144)⁶ compares this case with some sort of a wayward causal chain. Carrying out an intention is not successful if some unseen events get into the plan pursued to obtain the results. Thus, obtaining the result is not enough, the way it is obtained should be done according to one's plan. In the cases of wayward causal chains, where the result is obtained by a detour to the plan of action, one does not carry out her intentions. In a similar manner, in cases of overdetermination, even though the result is obtained, one does not carry out her intention successfully.

The question is what role does the comparison with wayward causal chains plays in Ludwig's argumentation that neither 007, nor 006 are carrying out their intention? Is this case also a case of a wayward causal chain? Is it structurally similar to those in which we have wayward causal chains? Talking about cases of overdetermination and the successful result, Ludwig appreciates that: "but it can seem that you hit what you are aiming at in deviant causal chain cases as well, but nonetheless something goes wrong" (Ludwig 2019, p. 146).

6. A Comment on Ludwig's Answer

We would definitely have a case of a causal wayward chain if the situation was the following: the cause of death of Aristotle Kristatos is the union of both 007's and 006's concentration of poison. In this case, the result would have been the one intended by 007 and 006. The result would correspond to the prior intention, however, their intention would not be carried out successfully, since their intention-in-action directed at the plan would not be executed successfully. The reason is that Aristotle Kristatos' death results, unknown to both agents, from the union of the concentration of their poison. In this case of wayward causal chain neither 007's action, nor 006's action would have been sufficient to cause Aristotle Kristatos' death.

However, the problematic case is the one in which both concentrations of poison are sufficient in order to kill Aristotle Kristatos. In this case, the analogy with the wayward causal chain does not hold since 006's and 007's causal chains are disjoint. The process seems to be the following: the agent forms the intention, the prior intention, to do something, she executes the action in accordance with a plan elaborated by her and she gets the result.

⁶ See also (Ludwig 2019, p. 144, n. 8), where he expresses the belief that "it is not clear that this case is not one of a deviant causal chain of a sort".

Another reason why we have a fundamental difference between a wayward causal chain and our situation is that in both cases, the causal chains are linear, uniting only in the result of killing Aristotle Kristatos. However, Ludwig requires that an individual action is the result of a successful execution of an intention if no other agent interferes in the plan, unless this is also part of the plan of the agent: “as a condition on the success of the intention that q is that the agent is the only one who brings it about that q in accordance with a plan for doing so—excepting anyone the agent intends to get to form such a plan as part of his plan to bring it about that q” (Ludwig 2016, p. 105). But it seems that neither of the two agents interferes with each other’s plan, since the chain of actions and events which bring the death of Aristotle Kristatos are disjoint.

Compare our case with the case of a wayward causal chain. Does the overdetermination case structurally resembles a wayward causal chain? I will argue that it does not, and that it is also a counterexample to Ludwig’s condition that an intention is successfully executed only if the agent is the only one who brings about an event in accordance with a plan.

First, let’s consider the following case of a wayward causal chain. Draco Malfoy⁷ intends to kill Dumbledore, given Voldemort’s orders. However, his mother knows he will not be able to do it, since Dumbledore is a far more powerful wizard. She asks Snape to help Draco, but without Draco being aware of his help. When Draco performs the action to kill Dumbledore, Snape performs another spell to enhance Draco’s performance, and Dumbledore is killed. In this case Draco does not successfully execute his intention because another agent, Snape, interferes with Draco’s execution of the plan, and Snape is not part of Draco’s plan. The case in which 007 and 006 poison Aristotle Kristatos seems to be fundamentally different. In that case, there is no co-agent interfering with the other’s plan. What Snape does in becoming a co-agent in Dumbledore’s death is to alter the plan accompanying the other agent’s (Draco’s) intention-in-action. On the other hand, in our example of the secret agent’s deeds, the causal chain does not interfere with one another. In this sense, neither is a co-agent since in neither case the intention-in-action accompanying the action does not take into account the other agent’s actions, while in the killing of Dumbledore, at least one agent’s intention-in-action (Snape’s) takes into account the other agent’s actions (Draco’s).

⁷ I hope Harry Potter fans will not be too mad for slightly altering the facts in the story. I also hope I haven’t spoiled your joy if you are planning to watch Harry Potter.

Consider that Draco gets to find out that Dumbledore died not only as a result of his spell, but as a result of Snape's interference as well. If Draco bragged about his deeds, at the news that he did not have killed Dumbledore by himself, he would consider himself an impostor in this case, that he did not deserve the title of the one who killed Dumbledore. Compare this with the following case. Consider that M is the true nemesis of 007. She is actually wicked and she tries to psychologically destroy 007 by making him feel as an impostor. What M tries to do is to be sure that 007 never carries out his intention. For this matter, she gives 006 the following mission, that is to replicate every assassination 007 is assigned. Thus, the killing of Aristotle Kristatos is just one in the gallery of the results 007 thought was the author of. In this case, if Ludwig was right, then it would seem that M succeeded and 007 is an impostor. However, is 007 an impostor in the same degree Draco is?

There seems to be a fundamental difference between 007's and Draco's deeds. The fundamental difference is that Draco could not do it by himself, while 007's actions would have resulted in Aristotle Kristatos' death even without the intervention of 006. What 006 does is just a replication of 007's actions. 006 does not get to say he is better than 007, but we know that Snape is a more powerful and experienced wizard than Draco. If Snape had not interfered, Draco would not have been able to kill Dumbledore. However, if 006 would not have interfered, 007 would have still be able to carry out his mission successfully. Draco is under the illusion that he was able to kill Dumbledore, while 007 is not under the illusion that he was able to kill Aristotle Kristatos and to carry out all his missions he was assigned with.

7. A Modal Formulation of The Sole Agency Requirement

Is the sole agency requirement semantically implied or just pragmatically implied? We have seen that if we accept that it is semantically implied, cases of overdetermination become puzzling for the analysis of singular action sentences, delivering unintuitive answers. However, is there a reformulation of the sole agency requirement suited to provide less counterintuitive answers to limit cases? Let's reconsider the problematic case. The sole agency requirement requires that a singular action sentence is true if the agent denoted by the subject is the sole agent and no other co-agent interferes. Moreover, the intention of the agent is not carried out successfully in case there is also another co-agent. These conditions delivered by the sole agency requirement tell us that in the 007 and 006 case of killing

Aristotle Kristatos, neither of the two agents get to claim the deed. Such limit cases show that the sole agency requirement is too strong. Is there a way to loosen the condition, in order to get rid of the problematic cases? Let's consider the following formulation of the requirement.

The Modal Sole Agency Requirement: if x were the sole agent and performed the same primitive action/s at any previous time, which bring about the result, this would be sufficient to bring about the same result, or x is the only agent of any primitive action at any previous time that brings about the certain event directly.

The new formulation is a disjunction between the old sole agency requirement and the modal formulation of the sole agency requirement. So, instead of asking that the agent is the sole agent of the primitive actions which bring about the result, we ask to imagine a possible situation in which 006 has nothing to do with the mission and the result is the same, namely, the killing of Aristotle Kristatos. Here I would use the very nature of overdetermination, namely the notion of causal overdetermination. Consider the surface definition Bernstein (2016) provides for it:

“Causes c_1 and c_2 *causally overdetermine* an effect e if c_1 and c_2 are distinct, they actually occur, and they are individually sufficient to cause e in the way that it occurs.” (Bernstein 2016, p. 18)

The key idea here is that both causes are sufficient for the event. In our example both causal chains are sufficient for the occurring of the event, namely Aristotle Kristatos' death. However, there seems to be a very important element left out in my formulation of the modal sole agency requirement, i.e. the causal chain. The formulation requires that we have the same agent, the same primitive actions and the same result, but in this case, there is room left for cases of a wayward causal chain. One can argue that considering the alternative circumstances, the result could be brought about by the same agent and the same primitive actions, but because of a wayward causal chain. Consider that, in that alternative circumstance, 007 poisons Aristotle Kristatos' s tea. However, Aristotle Kristatos refuses the poisoned cup and asks for another one. Suppose the waiter brought him mint tea, and

Aristotle Kristatos asked for a mint-orange tea. The waiter however, does not throw the tea, but pours into the poisoned tea some drops of orange juice such that Aristotle Kristatos won't notice he was served the wrong tea. The critique would be that in such cases we still have the same agent and the same result, but the intention of the agent is not carried out, because of the wayward causal chain. Thus, a requirement for the same causal chain in the Modal Sole Agency Requirement would eliminate cases of wayward causal chains. Thus, we need a new formulation of the sole agency requirement that excludes bringing about the result by means of a causal chain.

The Modal Sole Agency Requirement: if x were the sole agent and performed the same primitive action/s at any previous time, which bring about the result directly (no wayward causal chain interferes), this would be sufficient to bring about the same result or x is the only agent of any primitive action at any previous time that brings about the certain event directly.

8. A Critical Reaction⁸

Recall that Bloomberg argues that Ludwig would not say that 007 did not execute his intention successfully if, instead of 006's contribution, there was a chemical reaction that doubles the poison concentration. In this situation, Bloomberg holds that the sole agency requirement is fulfilled and 007 would execute his intention successfully. A similar criticism can be formulated for a reversed thesis, that 007 is not successful even though the alternative causal chain is non-agential. So, given a causal chain which is non-agential, and 007's causal chain, we hold that 007 is not successful and he utters something false. So, Ludwig is right.

Consider the following situation. I throw a rock at a window in order to break it. However, in the same time, there is an earthquake. The result is that the window breaks. This situation is problematic both for Bloomberg argument and for my modal formulation of the sole agency requirement. For Bloomberg is problematic because it is analogue to his example of the chemical reaction, but it leans towards another conclusion. In the earthquake example

⁸ I thank Professor Gheorghe Ștefanov for his reaction and extensive comments to my presentation of an early draft. The criticism presented in this section has been suggested and formulated by Professor Ștefanov. I hope I got the argument right.

it seems problematic to hold that I am the one who broke the window and I have carried out my intention successfully. The reason for this is that the earthquake seems to be a cause with better success rates than my throwing of a stone. The example is also problematic for my modal formulation of the sole agency requirement. Why? Because it can still be fulfilled, even though there is an accompanying cause like the earthquake. In the alternative circumstance, I am still the only agent involved, I perform the same primitive actions, the causal chain is the same, but there is also a disjoint causal chain (the earthquake) that produces the same results. The more fundamental reason for the difficulty regarding the earthquake example is that I can intend to obtain a certain result (event) (breaking the window) and the result (event) can be an effect of my primitive actions, but it can still not be my action. This view rests on Davidson's account on attitudes, primitive actions, and wayward causal chains (Davidson 2001c, p. 87). Bottom line, the critique states that 007 is not the agent of the event of poisoning Aristotle Kristatos, even though the event is not also caused by someone else as well. Moreover, the modal formulation of the sole agency requirement is problematic since, even though it escapes the situations in which there are two agents acting, it does not escape the situation in which there is an agent, accompanied by independent non-agential causes.

9. Can We Escape the Criticism?

First, in the wayward causal chains the primitive actions are just causally relevant for the event, they are not causally sufficient⁹. While in the secret agents example and even in the earthquake example, they seem to be causally sufficient, since they directly cause the event. They directly cause the event since there is no other event or action which leads to the final event of poisoning or breaking the window. Since they are causally sufficient, we can say the agents have successfully carried out their intention. Getting back to the Davidsonian principle stated in the previous section, it is true that an event can be a result of a primitive action, without being an action performed by the agent who also performed the primitive

⁹ I have borrowed the term "causally relevant" from the discussion between Merricks (2001) and Thomasson (2007). By "causally relevant" Merricks (see Thomasson 2007, p. 10-11 and Merricks 2001, p. 58) means as a minimal condition that something is the cause, one of the causes or a cause of the cause or causes which bring about the event. I slightly modify the definition of "causally relevant" to exclude "being the cause", and include only "one of the causes or a cause of the cause or causes which bring about the event".

action/s. However, I think the Davidsonian principle holds if the primitive action is a relevant cause, but not a sufficient cause of the event. In our example, the primitive actions of both 007 and 006 are sufficient causes for Aristotle Kristatos' poisoning, and not only causally relevant.

Second, recall Bloomberg's example which seems to be favourable to the thesis that 007 is pursuing his intention successfully. It is favourable because of the quantitative implication regarding the cause of the event. We know that the concentration of poison that 007 pours is sufficient to kill Aristotle Kristatos. We also know that the chemical reaction doubles the concentration of poison. Thus, the causes seem to be easily carved. However, the earthquake example is not that quantitative. We cannot properly separate between the vibrations produced by the earthquake and the force that the rock exerts on the window. Thus, it seems that even though either the earthquake, or the rock are sufficient to break the window, it is difficult to separate between the two.

Third, consider there was a contest of throwing rocks to the window. Unfortunately, in the exact moment my rock hits the window, the vibrations caused by the earthquake hit it as well. Now, if I were asked whether I broke the window, I would say that I do not know. The jury who establishes the winner would not be able to decide whether my rock or the earthquake broke the window. I think that recognizing me as the agent of breaking the window is difficult, but not for metaphysical reasons, but because we *do not know* how to differentiate between the causes in this case. Thus, the problem seems to be more epistemological than metaphysical. Going back to the double poisoning example, here we do not have an epistemological reason to overlap the causes, as in the earthquake example, because it is easier to differentiate between the first dose of poisoning and the second dose of poisoning. Concerning the modal formulation of the sole agency requirement, the fact that there is not an extra agent involved in it, it is just the earthquake, it makes it relatively harmless. This is because the reason for the puzzlement is not that there is no metaphysical difference between the causes, but because we do not know how to differentiate between the two.

10. Concluding Remarks

In this paper I have argued that if both 007 and 006 (unknown to each other) poison Aristotle Kristatos, and he dies as a result of double poisoning, both 007 and 006 get to claim the deed. Both are agents of Aristotle Kristatos' poisoning. Moreover, I have argued that they both pursue their intention successfully. Thus, I have supported Bloomberg's critique to Ludwig's answer to the two assassins example. I have argued that this example is indeed problematic and that it is not similar to a wayward causal chain.

However, I proposed a reformulation of the sole agency requirement such that the problematic example does not represent a counterexample to Ludwig anymore. The reformulation suggested is a modal formulation of the sole agency requirement, relaying on the fact that 007's actions are causally sufficient for Aristotle's Kristatos's death. Finally, I have considered the critique that the modal reformulation does not exclude situations in which the agent's actions are accompanied by non-agential events that lead to the same result. I have responded to the critique that it seems that the example is problematic as long as we cannot distinguish between the causes. However, the inability to distinguish between causes is rather epistemological than metaphysical.

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