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UNRAVELLING THE METHODOLOGY OF CAUSAL PLURALISM¹

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ABSTRACT

In this paper we try to bring some clarification in the recent debate on causal pluralism. Our first aim is to clarify what it means to have a pluralistic theory of causation and to articulate the criteria by means of which a certain theory of causation can or cannot qualify as a pluralistic theory of causation. We also show that there is currently no theory on the market which meets these criteria, and therefore no full-blown pluralistic theory of causation exists. Because of this, we offer a general strategy by means of which pluralistic theories of causation can be developed.

1. Introduction

The aim of this paper is to bring some clarification in the recent debate on causal pluralism. Our claim is that, as it stands now, there are many misconceptions about what it means for a philosophical theory of causation to be pluralistic. As a result, there are some philosophers of causation (such as Ned Hall and Nancy Cartwright) who have developed “pluralistic” theories, which on closer inspection appear to have more in common with eliminativist and monist theories on causation than with pluralist ones. Our first aim here is to clarify what it means to have a pluralistic theory of causation and to articulate the criteria by means of

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which a certain theory of causation can or cannot qualify as a pluralistic theory of causation. We will show that there is currently no theory on the market which meets these criteria, and therefore no full-blown pluralistic theory of causation exists. Because of this, we will also offer a general strategy by means of which pluralistic theories of causation can be developed and by means of which theories such as Hall's and Cartwright's, which are now only pluralistic in name, could be developed into full-blown pluralistic theories of causation.

Generally speaking, there are three different ways of philosophically defining, describing or characterizing causation. One can be either a causal monist, a causal pluralist or a causal eliminativist. Causal monism is the traditional way of dealing with causation. The causal monist tries to reduce causation to one specific relation (let us say R). The causal monist states that, when we say "cause", "effect" or "causes", we actually mean R or that we *should* mean R (in the sense that we would regard "R" as a more accurate way of saying "cause" or referring to causation when questioned about this and when we are correctly informed by science), but that for some reasons (which the causal monist has to provide), it is better or more convenient to refer to this notion as "causation". This relation R has been defined in a large number of ways, the most important of which are based on counterfactual dependence, positive statistical relevance, agency, processes and mechanisms.

The causal pluralist, on the other hand, does not believe that one can refer to a single relation R to define causation, but that causation is a generic term for a (finite) number of relations R1, R2, R3,..., and that again, for some reason which the causal pluralist has to provide, it is better or more convenient to refer to these notions (or certain combinations of these notions) as "causation" instead of using their specific names R1, R2, R3,...

Thirdly, the causal eliminativist also believes that causation cannot be described univocally, but, contrary to the causal pluralist², she does not see a good reason why we should refer to these relations by using the

² In theory, it is also possible to be a causal eliminativist while still believing that causation can be described univocally. Since no one has, at least to our knowledge, articulated such a position, we will leave this aside.

word “causation”, from which she concludes that our causal talk should be abolished altogether. Causation is, to use the words of Bertrand Russell, “a relic of a bygone age, surviving, like the monarchy, only because it is erroneously supposed to do no harm.” (Russell 1953, p. 387). Everything said by using the word “causation”, whether in science or in common language, can be said more accurately or more correctly in a different way.

These three different philosophical stances can be taken at three different levels: the conceptual, epistemological and ontological (sometimes also referred to as “metaphysical”) level. An analysis on the conceptual level is concerned with what it is that people in specific linguistic communities want to say about a given relation when they label it as “causal”. An analysis on the epistemological level is concerned with how causal claims in certain linguistic communities can be warranted to be (objectively) true as well as what their place in scientific knowledge is. An ontological analysis, finally, aims to find out what the referent of the word “causation” is in reality. In analytical philosophy of science, this typically happens by selecting some sets of true causal claims from specific scientific disciplines.

The conceptual causal monist states that we (all competent speakers of a given language) mean one specific thing when we talk about causation, while both the conceptual causal pluralist and the conceptual causal eliminativist claims that we (consciously or unconsciously) mean an array of different things. The difference between the pluralist and the eliminativist is that the first approves of this and the second doesn't. The epistemological causal monist holds that the relation R to which she wants to reduce causation is the only one which is (successfully) used for the creation of scientific knowledge. The epistemological causal pluralist holds that in different disciplines or different circumstances, different concepts of causation are used for the creation of a body of knowledge, while the epistemological causal eliminativist states that the notion of “cause” is of no use at all for science. The ontological or metaphysical causal monist believes either that there is such a thing as “causation” in reality or that causation is something which supervenes on a certain univocally determinable and

mind-independent arrangement of reality.³ The ontological pluralist believes that the word “causation” refers to a number of relations in reality. The ontological eliminativist on the other hand doesn’t believe the word “cause” refers to anything “real” at all.

A commitment to a certain stance at one level does not automatically entail a commitment to the same stance at another level. Huw Price and Richard Corry’s position of “causal republicanism”⁴, for example, might be characterized as causal eliminativism at the ontological level combined with (some kind of) causal monism at the epistemological and conceptual level.⁵ Nevertheless, there are certain combinations (such as conceptual causal monism and ontological causal pluralism) which are impossible or highly improbable at least.

As already said, the aim of this article is to investigate the niche in which causal pluralist theories can be formulated, and to articulate the methodology which necessarily follows from the nature of this niche. In the following section, we will contrast causal pluralism with causal eliminativism, and we will offer a criterion to determine whether a given theory is fully pluralistic or not. In section 3, we will offer a methodological strategy to develop full-blown causal pluralistic theories that meet the criterion presented in section 2. Finally, in section 4, we will consider some alternative approaches which might, at first sight, serve as counterexamples to our general claim.

³ In this sense, the ontological level comprises both causal realism (which states that causation is something that occurs in an external reality) and causal objectivism (which states that causal relations supervene on objective, mind-independent structures). See Psillos 2002 pp. 22-23.

⁴ Price & Corry *A case for causal republicanism?* In Price & Corry 2007 pp. 1-10. See also John D. Norton’s article in the same volume (pp. 11-44). Price, Corry and Norton, among others, argue in this volume that Bertrand Russell’s statement that causation should be banished from science and philosophy actually means that we should give up searching for “real” causal relations, since this is not what science is concerned with, but that we can still hold on to causation as a useful concept for creating, understanding and distributing knowledge.

⁵ Depending on the interpretation of causal republicanism, one could also be an eliminativist on the epistemic level.

2. Causal eliminativism and causal pluralism

As we have seen, there is a crucial point of difference between causal pluralism and causal eliminativism. Both positions state that causation cannot be described univocally, but whereas causal pluralism claims it is useful nonetheless to speak of causation, causal eliminativism does not. The formal description looks the same in causal pluralism and causal eliminativism. They both state that the set determined by the relation of causation (in the sense that this set contains all n-tuples of which the members stand in a causal relation with each other) is equal to the union of subsets determined by a number of relations R_1, R_2, R_3, \dots , where these R-relations are often captured by specific monistic theories. The essential difference is that causal eliminativism states that causation is equal to a union of very different kinds of relations useless to be gathered under a single term, while causal pluralism states that causation is equal to a number of kinds of relations which have “something” in common. Therefore, every causal pluralist should posit “something” which provides us with a good argument for taking these different sets together in a union in the first place. It is this “something” which should allow the causal pluralist to answer three interrelated questions which any philosopher of causation has to be able to answer if she does not want to be a causal eliminativist. These questions are related to the three levels we presented above:

(1) Conceptual: *Why do people say “A causes B”, rather than something more specific?* Answering, for example, that they mean “either R_1 or R_2 ” will not do. This does not explain why people use the word “cause” (rather than R_1 or R_2), which was the explanation which is asked for by posing the question above.

(2) Epistemological: *Why do scientists in different disciplines use the words “causes”, “cause” and “effect”, while they could use a more accurate terminology?* (for example “produces”, “creates”, “brings about”, “is dependent on”, “is a condition for”, ...)

(3) Ontological: *What is it that the term causation refers to in reality? Why do we use the term “causation” to refer to certain things in reality, while we could refer to them more accurately by using a more specific terminology?*

If one cannot give a satisfactory answer to these questions, one is forced to conclude that the concept of causation or the word “cause” has

no use, and should therefore be abolished (on the conceptual, epistemic or ontological level, depending on the question one fails to answer). This point has, to our knowledge, not been taken into account in the literature. Nancy Cartwright, for example, has stated the following:

The important thing is that there is no single interesting characterizing feature of causation; hence no off-the-shelf or one-size-fits-all method for finding out about it. (Cartwright 2007, p. 2)

Cartwright claims that there is no common feature in all causal relations. Nevertheless, she herself still uses the term causation, and she refers to certain verbs as “causal verbs”. (Cartwright 2007, p. 19) This implies that, although she believes that there is no common feature in all causal relations, there still must be some reason to group all these relations under the term “causation” instead of using more specific terms. Nevertheless, she has, at least to our knowledge, never given such a reason. Therefore, her theory is, at this point, somewhere in the grey zone between causal pluralism and causal eliminativism. If she wants to be consistent, she has two options: she can either give up all talk about causation (including terms such as “causal verbs”), or she can provide a good reason why we should take all these different relations together under the banner of “causation”.

3. A methodological strategy for the development of a pluralistic theory of causation

In this part, we will offer a methodological strategy which can be followed in order to develop a full-blown pluralistic definition of causation. The general idea is that a specific strategy is required to develop a pluralistic definition of causation which provides answers to the questions mentioned above and hence can fully approve the claim that there are different kinds of causation and that none of these kinds is more typical or real than another. This methodological strategy essentially consists of two parts: first, one should formulate a general condition, which determines a set of which one is sure that it incorporates all possible causal relations. In the second step, an array of specifying conditions is introduced in order to rule out the non-causal in this set. Because none of these specifying conditions will be present in all causal relations, the resulting definition of causation will be

pluralistic. Further, neither of these two kinds of conditions -the general one which situates the definiendum in a larger class and the specifying ones which exclude the non-causal members of this class - gives on its own a basic intuition about what causation is. Such an intuition is only given by the combination of the two. There is nothing strange about this. In a definition of a feline, for example, we first start from a general condition (predator) which incorporates all the felines, as well as canines, bears, hyenas,... Then some more specific criteria (teeth formula, retractable claws, the ability to purr) are added in order to filter out all the non-felines. In neither of these criteria there is a complete intuition of what a feline is. The intuition of what a feline basically is, is only given in the combination of all of these criteria

In order to make this methodological strategy clear, we will give an example of how it could be filled in. It is important to know that what follows is meant in the first place as an illustration of how this strategy works, not as the presentation of a full-blown pluralistic theory of causation. Despite this disclaimer, we do believe that the way we try to fill in this framework has the potential to become such a full-blown definition.

3.1 The General Condition

First, we need a general condition: something/ some common characteristic of which we are absolutely sure that it is shared by all causal relations. As we have said, it is important that the set of entities which is associated with this general condition comprises each and every one of the instances of causation. On a conceptual level, this condition should apply to every causal claim which is or can be made in a meaningful way. On the epistemological level, it should apply to every scientifically sound causal claim, and on the ontological level, it should apply to every causal claim which is thought to refer to a causal structure which is present in reality. Note that the second and the third sets are subsets of the first, since the scientific community also counts as a linguistic community, and since, at least in analytical philosophy, the statements which we believe to be informative about reality itself are taken from certain scientific disciplines.

The important thing about this general condition is that it does not matter that it also contains some non-causal relations, because its task is

not to give us an intuition about what causation is, but only to give us something which is typical for causal relations. We can clarify this by an analogy. It is, for example, typical for a chair that we use to sit, but not everything we use to sit on is a chair. In order to get a basic intuition of what a chair is, or in order to develop a definition of the concept of “chair”, we should add some more specific criteria. So what we are looking for is a term which is in some way typical for causation in general, but not for any group of instances of causation in particular

The question now is: what do all causal relations have in common that other relations generally do not? As a first possibility towards answer to this question, we will turn to some observations by Michael Tooley, who asked himself the same question, be it with a different agenda:

That there are certain formal properties that any causal relation must necessarily possess is, I think, both a rather natural view, and one quite widely accepted in philosophical discussions of causation. In particular, I think that it is tempting to hold that all causal relations must have the following three formal properties. First, causal relations are irreflexive: no state of affairs can ever be the cause of itself. Second, causal relations are asymmetric: if A causes B, then it cannot be the case that B causes A. Third, causal loops are impossible. There cannot, for example, be three events, A, B and C such that A causes B, B causes C, and C causes A (Tooley 1999, p. 327).

Tooley’s third condition is a consequence of the fact that he does not take for granted that causal relations are transitive. If they would, condition three would be superfluous, since its truth would follow from condition one plus transitivity. Depending on which stance one takes, one takes either transitivity or the impossibility of causal loops as a third condition. The first two conditions, however, are quite generally accepted to be a necessary part of causation.

A second possibility is given by Federica Russo (Russo 2006). Although Russo has a different agenda than we do in this paper, she has developed a principle of causation which is very usable for our purpose. Russo has identified a common characteristic of causation, which does not offer a clear-cut definition, but what she calls a *rationale*:

A rationale is the principle or notion underlying some opinion, action, phenomenon, reasoning, model, or the like. A rationale of causality in causal modeling is then the principle or the notion that guides causal reasoning (in causal modeling). It is worth emphasizing that a rationale is not a definition of what causality is. (Russo 2006, p. 105)

My proposal is, instead, to depict the rationale of causality as the measure of variation or change. (Russo 2006, p. 106)

Russo also notices that the notion of rationale is limited to epistemology, and cannot be used for metaphysical purposes. (Russo 2006, p. 105) We disagree. If change is the epistemological rationale for causal reasoning, this entails that what we look for in causal relations is a relation between changes, or that we are motivated to develop causal models by the occurrence of a variation or change. In both cases, what we end up with, is an epistemological statement of a relation between variations. If we take it for granted that epistemological statements refer to the world (in whatever sense of “referring” or “world” you might think of) and that the task of metaphysics is to give us a description of the basic building blocks of this world, then there is no problem in regarding the fact that all causal relations are relations between variations as a metaphysical statement.

A different problem with Russo’s account is that she states that the fact that there is only one rationale of causation entails monism. As we have seen, this is not the case. Causal monism on the epistemic level claims that scientists actually mean “R” when they say “causation”. Russo does not make that claim: scientists do not mean “change”, “variation” or “relation between changes or variations” when they say “causation”. Relations between variations or changes are just one common feature of causation but, as Russo says herself, they are not a definition. Therefore, there is no problem in using the principle of variation as a general condition of causation in a pluralistic theory. On the contrary, it might even prove extremely useful for this purpose.

We do not take a stance in how these accounts by Tooley and Russo should be developed exactly. One could take them together, and say that the general condition of causation is that causation is an irreflexive, asymmetric relation between changes. We think this is the most fruitful option. However, one could also opt for either Tooley or Russo, or develop new conditions. For this paper, this does not matter,

because our main goal is not to develop a pluralistic definition of causation ourselves, but to offer a framework by means of which other people can develop a pluralistic theory of causation.

As we have seen in Section 2, the philosophical task of this general condition of causation is to allow us to give an answer to these three questions:

- (1) Conceptual: *What do people mean when they say “A causes B”, rather than something more specific?*
- (2) Epistemological: *Why do scientists in different disciplines use the words “causes”, “cause” and “effect”, while they could use a more accurate terminology?*
- (3) Ontological: *What is it that the term causation refers to in reality? Why do we use the term “causation” to refer to certain things in reality, while we could refer to them more accurately by using a more specific terminology?*

The answer to the first two questions is more or less the same. In both cases, it can be interesting to refer to a certain relation as “causation” instead of, for example “production” or “counterfactual dependence”, because in this way more relations can be grouped under the same concept. This has the advantage, from a conceptual point of view, of cognitive economy, and from an epistemological point of view, of unification. In daily life, it is easier to refer to a whole array of relations as causation than to use a different word each time. Only if we are interested in some more specific properties (for example if we try to manipulate something), we can use a more specific word such as “production”, since, if we know the process or mechanism by which a certain effect is produced, we can use this knowledge in order to manipulate this process and change the effect.

In many cases, however, it is enough simply to point out that a given relation is a relation between two variations, and that is irreflexive and asymmetric, which can be achieved by using just the word “causation”. Something similar holds for the case of scientific knowledge. If a scientist talks about “causes”, this will allow her to make the connection with different scientific areas and to provide a more coherent general scientific picture. It only becomes obsolete to talk about causation if she wants to know more specific information, for example concerning mechanisms. As an answer to the third question, we can say there is a certain relation (or a group of relations) which we do not know

directly, but which always manifests itself as an irreflexive and asymmetric relations between variations.

3.2 The specifying conditions

Once we have established the general condition, we can try to formulate the specifying conditions. The goal of these specifying conditions is to filter out the non-causal relations from the general set determined by the general condition. At a conceptual level, we have to find specific criteria in virtue of which causal claims are regarded as valid in specific linguistic communities. At an epistemological level, we have to give criteria by which causal claims are seen as scientifically valid ones, while at an ontological level, we have to give extra criteria to tell which of these are the real ones. Again the latter two are subsets of the first.

Among these conditions are the criteria which make up the traditional theories of causation, such as counterfactual dependence, positive statistical relevance or production, but also criteria such as temporal sequence or spatial contiguity.⁶ By seeing these concepts as additional criteria instead of definitions, it becomes possible to use them in an eclectic and pluralistic way, in contrast to their use in monistic theories. Of course, using them in a pluralistic way does not entail that we just put them alongside each other in a disjunction. If we want to give an adequate description or characterization, we will have to provide an account about which criteria apply in which context. Rather than a simple disjunction of different rules, such an account would take the shape of a multi-dimensional network or cluster of causal relations and contexts.

⁶ The fact that there is a difference between spatial, temporal and causal relations does not mean that spatial and temporal links cannot participate in a definition of causation. This isn't abnormal. Causation obviously takes place in space-time, between objects which may be instances of each other or look like each other... It is nothing more than normal that these should play a part in the definition of causation. The converse is also true. Causation can play an important role in the definition of, for example, space, time or the part-whole relationship. The essential thing is that neither of these relations can be reduced to a combination of other ones.

Obviously, such an account is not easily given. We do not even claim that it is possible at all ever to find a perfect account. What we do claim is that this point of view would allow us to construct a definition which would become gradually better and more accurate as our understanding of how causation works in different scientific and non-scientific contexts increases. This entails that there should be a shift in the philosophical research on causation. Instead of attacking and defending different theories with the use of hypothetical counterexamples, we should look at how the concept of causation is actually used in science, common language or a combination of the two. In this sense our approach is compatible the approach Ned Hall developed in (Hall 2006) and which can be called the “Theoretical Utility Perspective” (see Weber & De Vreese 2009, p. 179).

4. Alternative approaches

In the above two sections, we have argued that a pluralist definition of causation is necessarily connected with a specific strategy as described in section 3, and vice versa. There are two possible counterarguments to this claim. First, one can give examples of monistic theories which are developed along the same lines as our strategy for pluralism. Second, one can give examples of pluralistic theories which use a different kind of strategy. In this section, we will discuss some approaches which at first sight seem to form such counterexamples. This discussion will also help clarify the specific nature of our strategy for causal pluralism.

First, let us consider causal monism. As we have seen, any theory which states that it is in some way useful to talk about causation has to give an answer to the three questions which we have formulated above. This holds for both causal pluralism and causal monism. Philosophers developing monistic theories causation are typically looking for something as a “synonym”, one singular statement which should give us the basic intuition of what causation is. Let us call this S. If such a synonym is found, it will give the monist an easy answer to all three questions mentioned above.

(1) Conceptual: *What do people mean when they say “A causes B”, rather than something more specific?*

People simply use the word “cause” because it is a synonym for S, in exactly the same way as synonyms are used in everyday language.

(2) Epistemological: *Why do scientists in different disciplines use the words “causes”, “cause” and “effect”, while they could use a more accurate terminology?*

Scientists use the term “causation” to refer to the property P which all these concrete individual relations have in common.

(3) Ontological: *What is it that the term causation refers to in reality? Why do we use the term “causation” to refer to certain things in reality, while we could refer to them more accurately by using a more specific terminology?*

If we take P to be the defining property of causation, then the entity which is the referent of the word “causation” is, depending on one’s metaphysical background theory, either the P-universal or a collection of P-things.

Typically, a philosopher who wants to develop a monistic theory of causation proceeds in the following way: she thinks of one example of causation which she considers typical, and then tries to abstract from this example in order to discover the essence of what makes this case a typical example of causation. In the terms of Stephen Pepper (1942), we can say there is one causal relation which serves as a “root metaphor” by which all other causal relations can be seen as causal. To formulate it in a somewhat more precise way: in defining the set determined by the term “causation”, she will start from one specific subset, and then try to discover the properties of the larger set by deriving them from the properties of this subset. The agency/interventionist/manipulationist theory of causation (a.o. Woodward 2003) is a very good example of this strategy. It is clear that this theory starts from a limited set of causal relations, namely those which involve human agency or manipulation, and that this set is then systematically expanded in order to incorporate other causal relations. This happens by taking the conditions for the original limited set of causal relations and then defining them in a broader way, for example by referring to possible interventions instead of actual ones. A similar observation can be made about causal process theories. (see Dowe 2000, Salmon 1994). The original set which determines causal interactions consists of couples of two colliding objects (like billiard balls), and the original set which determines causal processes consists of objects flying through space at a constant speed.

In contrast, some monistic philosophers of causation do seem to use the top-down method described in section 3. Patrick Suppes, for example, (1970) first defines *prima facie* causes (Suppes 1970, p. 12) as probability raisers which precede their effect in time, and then supplies a number of additional criteria which are supposed to systematically exclude spurious causes. This corresponds with the strategy which we have given in section 3. The question then is: why is Suppes' theory generally seen as a monistic one? The reason for this is that, although the structure of Suppes' definition might correspond with our methodological strategy, the underlying assumptions do not. It is clear that the idea of a probabilistic theory of causation comes from paradigmatic cases such as "smoking causes lung cancer" or "inoculation prevents cholera". The heart of Suppes' theory is still formed by one single root metaphor. As we have seen, in a full-blown pluralistic theory of causation, this is not the case. There the intuition of what causation really is is given only through the combination of the specifying and the general conditions. Wesley Salmon's 1984 theory is another example. Salmon starts his definition of causation (in the 1984 version) from the concept of "process" in general, and then introduces a difference between causal processes and pseudo-processes. (Salmon 1984, p. 194) A causal process is then defined in terms of a more encompassing term ("process") which fulfills certain specific conditions. Seen from an exclusively formal point of view, this again looks like our strategy for a pluralistic theory. Nevertheless, it is clear that Salmon starts from the basic intuition that causation is a process. Parallel to Suppes' case, it is therefore impossible for Salmon's theory to be a pluralistic one.

In the preceding paragraph, we have taken a short look at theories which do seem to use our strategy, but which are not pluralistic. In this paragraph, we will treat Ned Hall's theory of causation (2004) as an example of the converse. This theory is generally thought to be a pluralistic one, but it does not use the strategy outlined above. Let us take a look at his definition:

Causation, understood as a relation between events, comes in at least two basic and fundamentally different varieties. One of these, which I call "dependence", is simply that: counterfactual dependence between wholly distinct events. In this sense, event C is a cause of a (distinct) event E just in case E depends on C; that is, just in case had c not occurred, e would not have occurred. The

second variety is rather more difficult to characterize, but we evoke it when we say of an event C that it helps to generate or bring about or produce another event E, and for this reason I call it “production”. (Hall 2004, p. 225)

Hall simply combines the two largest families of monistic theories into a pluralistic theory. As we have seen (section 1) the causal pluralist has to provide a reason why it is useful to group all of these relations under the same banner. In our strategy, this reason is provided by the general condition. Hall gives a different argumentation: we use the word “causation” in order to refer to counterfactual dependence and production because dependence and production usually occur together. The problem with Hall’s theory is that he does not give an explanation why this is the case. The co-occurrence between counterfactual dependence and production is a consequence of mere coincidence. Therefore, Hall just shifts the problem: instead of a reason why people use the word “causation”, we are now in need of an explanation why counterfactual dependence and production usually occur together, and, as a corollary, of an explanation why they do occur separately in some cases. Although Hall’s shift of the problem is certainly informative to some extent, it cannot be the basis of a theory of causation, since one phenomenon, the co-occurrence of dependence and production, is explained by means of an unexplained additional phenomenon. As a result, although Hall has an answer to at least one (the first) of our three questions, this answer produces two unanswered questions (namely “why do dependence and production usually occur together” and “why do dependence and production sometimes not occur together”). Because Hall does not give an answer to these questions, there is a fundamental gap in his theory, and as a result it cannot be regarded as the basis of a full-blown pluralistic theory of causation.

5. Summary

In the first and second parts of this paper, we have argued that, if a philosopher wants to be a causal pluralist, i.e. if she holds that there is no one-size-fits-all definition of causation while still believing it is useful to keep using the word “causation”, she has to find an answer to at least one of three questions, related to the conceptual, epistemic and ontological

terrain respectively. In the third part of this paper, we have offered a strategy by means of which an answer to these questions can be given. In the fourth part, we have tried to clarify this strategy by contrasting it with monistic theories of causation and with Ned Hall's theory.

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REFERENCES

- Cartwright, Nancy (2007) "Hunting Causes and Using Them" Cambridge University Press, Cambridge.
- Dowe, Phil (2000) "Physical Causation" Cambridge University Press, Cambridge.
- Hall, Ned (2004), "Two Concepts of Causation", Collins, Hall & Paul, "Causation and Counterfactuals", MIT Press, Cambridge, pp. 225-276.
- Hall, Ned (2006) "Philosophy of causation: blind alleys exposed; promising directions highlighted" *Philosophy Compass* 1(1), pp. 86-94.
- Norton, John, (2007) "Causation as Folk Science" Price & Corry, "Causation, Physics and the Constitution of Reality. Russell's Republic Revisited", Clarendon Press, Oxford.
- Price, Huw & Corry, Richard (2007), "Causation, Physics and the Constitution of Reality. Russel's Republic Revisited", Clarendon Press.
- Pepper, Stephen (1942), "World Hypothesis", University of California Press, Berkeley & Los Angeles.
- Russo, Federica (2006), The Rationale of Variation in Methodological and Evidential Pluralism, *Philosophica* 77, pp. 97-124.
- Russell, Bertrand (1953), "On the notion of cause, with applications to the free-will problem" , in: Feigl & Brodbeck: *Readings in the Philosophy of Science*, Appleton, New York, pp. 387-407.
- Salmon, Wesley (1994), Causality without counterfactuals, *Philosophy of Science* 61, pp. 297-312.
- Suppes, Patrick (1970), "A Probabilistic Theory of Causality" North Holland, Amsterdam.
- Tooley, Michael (1999), "The Nature of Causation: a Singularist Account", in: Tooley, Michael (ed) *Laws of Nature, Causation, and Supervenience*, Garland, New York & London, pp 299-350.

- Weber, Erik & De Vreese, Leen (2009), “Conceptual Analysis of Causation and Theoretical Utility in Everyday Contexts”, *Logique et Analyse*, 206, pp. 177-190
- Woodward, 2003, “Making Things Happen: a Theory of Causal Explanation, Oxford University Press, Oxford.