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Defending sole singular causal claims

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ABSTRACT: Even given agreement on the totality of conditions that brought about an effect, there often is disagreement about the cause of the effect, for example, the disagreement about the cause of the Gulf oil spill. Different conditions' being deemed responsible accounts for such disagreements. The *defense* of the act of deeming a condition responsible often depends on *showing* that the condition was the appropriate target of interference in order to have avoided the effect.

KEYWORDS: argument, causation, causal nexus, causality, deeming, responsibility ascription, speech act, singular causal claims

1. INTRODUCTION

For many years I have been interested in the fact that different people when faced with the same set of facts sometimes pick different things as *the* cause of an effect. For example, one group recently claimed that a set of decisions by BP managers was the cause of the 2010 Gulf Oil Spill, and another group claimed that the lack of effective regulation by the U. S. Government caused the oil spill, although both groups had access to the same set of facts. After a recent forest fire in which some houses were destroyed, some people picked the large amount of dry underbrush as the cause of the forest fire; others picked the drought; others picked the failure to institute regular controlled burns; and others picked lightning.

2. A NON-REDUCTIVE ANALYSIS OF SOLE SINGULAR CAUSAL CLAIMS

These are all sole singular causal claims, which are of the form 'x was the cause of y' (or 'x caused y'). I shall argue they can be analyzed non-reductively as follows:

To make a *sole singular causal claim* of the form, 'x was the cause of y' (or 'x caused y') is 1) to *assert* that x together with other things brought about y, and 2) to *deem* x responsible for the occurrence of y.

In this two-part analysis the letters, "x" and "y" each stand for one specific (token) thing (e.g., event, state of affairs, procedure, person, etc.), not a class (type) of thing. This analysis is non-reductive because the term "brought about" in the analysis is itself a causal term. The analysis holds that there are two actions embedded in every sole singular causal claim, the action of asserting a fact, and the action of deeming something responsible. This deeming always assumes a perspective, and often values.

So, although there is an objective judgment called for in judging that Part 1 of the analysis is satisfied, there is a non-objective element, which is responsibility ascription (Part 2) to be defended in defending sole singular causal claims. Furthermore, according to this proposed conceptual analysis, deeming something responsible (ascribing responsibility) is logically prior to the selection of that thing as the cause, instead of the reverse, making selection of the cause partly subjective.

2.1 A conflicting alternative

An alternative view is that, assuming that Part 1 of the analysis has been justified, factual investigation (to be elaborated later) narrows the field down to *x*'s being *the* cause, which in turn justifies deeming *x* responsible. This alternative places the selection of something as the cause logically prior to deeming it responsible. This would make the selection of the cause fully objective.

In this essay my argument for my proposed analysis is that it plausibly and reliably indicates a way of defending a sole singular causal claim in the above examples and other examples I shall cite, that the initially-plausible conflicting alternative does not succeed in narrowing the field down to *the* cause, and because I can think of no other plausible view. If I am right, then selecting the cause requires more explicit initial attention to ascribing responsibility than it generally receives.

2.2 Partial singular causal claims, general causal claims

Sole singular causal claims may be contrasted with partial singular causal claims (of the form, '*x* was a cause of *y*', or '*x* partially caused *y*'). For example, BP claimed, "The failure of Cameron's blowout preventer to seal off the well was a cause of the spill" (Gold 2011: B1). Both kinds of singular causal claims can be contrasted with general causal claims of the form, '*X*'s cause *Y*'s', exemplified by 'Failures of the U.S. Government to effectively regulate crucial activities cause problems' and 'Smoking causes cancer.'

In this essay I shall focus on the analysis and defense of sole singular causal claims. However, I suspect that there are also perspectival elements in partial singular causal claims and general causal claims, a suspicion we might pursue in our discussion.

2.3 Why the, instead of a, cause?

Do we have a right to choose *the* cause in a sole singular causal claim? John Stuart Mill deemed selecting *the* cause from many conditions "capricious" (1872: 215). David Lewis, who is perhaps the leading recent causal theorist, declined to analyze sole singular causal claims, claiming that they involve "invidious discrimination" (1973: 559). But what is the matter with what Mill and Lewis call "capricious" and "invidious discrimination"? We do it all the time, and find it very useful in dealing with the world, as can readily be seen in the upcoming airplane crash example. A number of causal theorists have focused on sole singular causal claims, including H.L.A. Hart & M. Honore (1959), Michael Scriven (1966), J. L. Mackie (1974), Wayne Davis (1980), Martin Bunzl (1980), Ennis (1982), C. Kenneth Waters (2007), and Christopher Hitchcock & Gordon Knob (2009).

3. A DEADLY AIRPLANE CRASH

This crash was thoroughly investigated and has the advantages for our purposes of being understandable and having no disagreements about the causal processes and causal chains, which I shall call the causal nexus. The causal nexus is roughly that to which Mill referred when he spoke of “the sum total of the conditions, positive and negative taken together; the whole of the contingencies of every description, which being realized, the consequent invariably follows” (1872: 222). But I substitute “followed” for “invariably follows” to make singularity and past tense clear, and for the full causal nexus would mention successive time slices, each leading to the next.

On May 25, 1979, on takeoff in Chicago the left engine of a DC-10 actually broke loose and fell off, but under full power from the other two engines, the airplane first climbed, then made a steep bank to the left, turning back down into the ground. The *Chicago Tribune* reported that the NTSB said that “the probable cause of the accident of the DC-10 jet liner could be traced to an engine mount damaged by improper maintenance” (Siddon 1979: Section 1: 5). In less guarded language a headline in *The Daily Illini* (1980) supplemented this report by adding the denial that the design was the cause with the headline, “Pylon care, not design, caused the DC-10 crash” (p. 2), pointing the finger at the airline (with its maintenance procedures), not the manufacturer (with its original design). The pylon is the part that attaches the engine to the wing.

However, some people felt that defective design was the cause of the crash. According to *New York Times* columnist Richard Witkin “As one official put it, ‘Should you design planes where mechanics have to handle such a large structure with kid gloves?’” (1979: D: 25).

A pilot friend of mine felt that lack of information to the pilots regarding the actual position of the wing flaps was the cause. To explain: Unknown to the DC-10 pilots, the engine’s breaking loose broke the hydraulic lines to the left wing flaps, allowing the left wing flaps to return to normal flight position instead of take-off position. So the left wing lost its lift (that is, stalled) at the speed at which the plane was being flown, while the right wing maintained its lift. So the left wing dropped severely, resulting in a partial rollover into the ground. According to Witkin:

“Some safety experts, without criticizing the crew, believe that they [the crew] might have saved the plane if they could have known what had happened.... ‘They couldn’t have known what damage had been done,’ said one specialist close to the inquiry. ‘But if they had continued to accelerate to 180 or 190 knots [by lowering the nose and reducing the angle of attack], instead of climbing and flying by the book at lower air speeds, they probably could have flown it back to the field’ (1979: D: 25).

All this information supports my pilot friend’s claim about the cause by making plausible the attribution of responsibility to lack of information.

So there are at least three possible candidates for *the* cause: maintenance procedures, design of the engine mounts, and lack of information to the pilots regarding the position of the left wing flaps. Assuming they are the only plausible ones, how can one choose the cause of the crash from among them? According to my suggested analysis, we should choose from among conditions about each of which we can justifiably assert that it, together with the other conditions, was sufficient to bring about the crash; and should choose the one that we can justifiably deem responsible.

4. BEING SUFFICIENT, GIVEN OTHER THINGS

We do not know, and do not need to know, the identity of all the factors that together brought about the effect, each of which was sufficient, given the other conditions, to have brought about the effect. But it helps to know those that tend to make a difference in practice, given our perspective. This involves knowledge of causal generalizations and local factors, and is the sort of field-and-experience-dependent knowledge which we started to acquire when we hit a rattle hanging over our heads in a crib and the rattle made noise. When we noticed that it happened several times, we have some evidence for a generalization about the effects of what we do and about how rattles behave. As we develop, we pick up all kinds of knowledge about how things work in our vocational, civic, and personal lives. We learn to be attentive to necessary and sufficient conditions, to develop experiments to try to rule out alternative explanations of results, and come to realize how important it is to be informed about a situation we are investigating. The investigators had this sort of knowledge about that crash, so they were able to say about each of a number of factors that it was sufficient, given the other conditions, for the effect. More detail about satisfying Part 1 of the analysis is not necessary here. It is not controversial.

5. DEFENDING THE REST OF THE SELECTION OF X AS *THE* CAUSE

How can we defend the rest of the claim that x was *the* cause? According to the alternative to my proposed analysis, strategies used to satisfy the first part of the proposed analysis of sole singular causal claims can be extended and will do the job. But I shall argue that they, as well as two others mentioned in the literature, will not succeed. The two others are selecting a deviation from normality, and/or selecting a free deliberate human action. But none of these suffices to pick out *the* cause in all the given non-experimental examples. I also believe that none of these strategies suffices in scientific examples, even controlled experiments (though so urged by C. Kenneth Waters 2007), and will briefly argue for this claim as well. Let us consider the strategies one by one.

5.1 *Sufficient conditions*

Being sufficient given the other conditions, although necessary, is not enough, because being sufficient, given the other conditions, holds for all of the conditions mentioned in the examples.

5.2 *Inference to best explanation (IBE)*

A crucial feature of IBE is that ruling out alternative explanations generally depends on showing their inconsistency with the facts. But in our examples, none of the alternate explanations (the alternative candidates for being the cause) are inconsistent with the facts. So IBE will not justify a selection of the cause from the candidates offered by the cause selectors.

5.3 Necessary conditions

One popular approach is to choose the necessary condition for the effect to have occurred. For example, NTSB Board Member, Francis McAdams was reported by the *Chicago Tribune* to have said “that if the pylon had not been damaged..., the series of events leading to the crash would not have occurred” (Siddon 1979: 1, 5). He successfully used this necessary-condition fact to persuade his colleagues on the Board that faulty maintenance procedures were the cause. Lawyers sometimes use a similar approach in identifying the cause, using what they call the “but-for” test, which has this form: ‘But for x, y would not have occurred.’ For example, ‘But for the gasoline in the garage, the fire would not have spread and killed the victim.’

The principal trouble with this approach is that there are always many necessary conditions. Most causal conditions are necessary conditions, given the other conditions. For example, almost all of the conditions mentioned in the above examples were necessary conditions, given the other conditions, for their effects at the time. But only one can be *the* cause. Thus being a necessary condition, given the other conditions, would not show that the putative cause is the cause.

Another consideration that shows that being a necessary condition, given the other conditions, does not suffice is distant-in-time cases. For example, my grandmother’s being born is not the cause of my writing this essay, although it was a necessary condition, given the other conditions, for my writing this essay. Being a necessary condition does not make it *the* cause. (Thanks to James Woodward (2008) for the idea for this example.) Of course ontologically speaking, it was part of the causal nexus along with billions of other things in the past, but we would not even say that it is *a* cause. This fact suggests that our perspectives really matter for determining not only *the* cause, but also *a* cause, as well as for deeming generalizations to be ‘causal’.

Furthermore being a necessary condition, given the other conditions, is not only not sufficient for something to be *the* cause, being a necessary condition is not even always necessary for something to be *the* cause, as shown by “linked overdetermination” cases, a realization suggested by Michael Scriven (1961). One of his examples is that of a successful coup d’etat by a radical group. The effort is watched attentively by the army, which would have done the same thing, if the radical group’s efforts had failed. Since the military would have moved faster than the radical group, the military’s coup would have happened at the same time. In this example, the radical group’s efforts were not a necessary condition for the coup, given the other conditions, even though they were the cause of the coup.

One might quibble on the ground that the military’s coup would have been different, even though the time is the same, and Scriven’s example has possibly been improved upon in this respect by, among others, Wayne Davis (1980), who offered a pair-of-light-switches example, and Ennis (1982) with a time-delay relay pair-of-light-switches example. But given the dependence of sameness on context (Rupert Crawshay Williams 1957), I think that Scriven’s counterexample suffices.

5.4 Correlation

Various correlation strategies have been suggested, but they apply only to causal generalizations, and even then do not guarantee that the putative cause is a general cause, given the other conditions. Correlation is not causation, as the saying goes.

So, assuming that the task is to provide logically necessary and sufficient conditions for something justifiably being judged to be *the* cause in non-experimental situations; we must seek elsewhere, even though each of the above, given the other conditions, is at least sometimes justifiably cited as evidence that something was the cause of a non-experimental effect.

Thus it seems that standard approaches to non-experimental cases do not settle the question of which, if any, of the conditions that jointly were sufficient to bring about the effect, was *the* cause.

5.5 Deviating from the norm and being a free deliberate human action

H. L. A. Hart & Tony Honore (1959) picked being abnormal and being a free deliberate human action as appropriate criteria for picking the cause (1959: 31). I think that neither will do the job. First let us consider abnormality, which also seems to be the condition suggested by Christopher Hitchcock & Joshua Knobe (2009). Hart & Honore mentioned the gardener who fails to water the flowers, so, given that watering the flowers is the normal way things are done, they pick the gardener's non-watering of the flowers as the cause of the flowers' death. But it was normal to let underbrush be undisturbed, yet the non-environmentalist picked the underbrush as some cause. They wanted to have it removed, but the authorities declined. Another: it was normal for there to be no direct information to the pilots about the conditions of the flaps in each wing, yet my pilot friend picked that as the cause. So a deviation from normality, though often chosen as the cause, is often not chosen as the cause. Instead a normal condition is often chosen as the cause by reformers. Similarly free deliberate human action is often chosen as the cause, but often not. For example, some chose the free deliberate human action of allowing the underbrush to remain in the forest, while others chose lightning and others chose drought as the cause, though neither of the latter two was a free deliberate human action.

5.6 Deeming *x* responsible and thus the cause

What sort of thing then requires our choosing one thing from the many things that jointly were sufficient in our non-experimental examples? As I see it, given that the chosen thing is one of the conditions that were jointly sufficient, the cause selector *deems* one condition responsible based his or her perspective, and thus judges it to be the cause. This fits all the examples, in each case narrowing it down to one cause.

In each case considered (in all of which the effect was undesirable) the selector felt that the selected *x* was the appropriate target of interference in order to have avoided the effect, if we were able to do so, and therefore deemed it responsible and thus the cause. For example, the NTSB's ascribing responsibility to improper maintenance might be defended by showing that the maintenance procedures were a violation of some acceptable rule, such as the manufacturer's rule that in removing the DC-10 engine for

overhaul and inspection the engine and the pylon must be removed separately, not as an assembled unit. This rule for the aircraft that crashed was not followed in the repair shop. So it was reasonable to deem maintenance procedures responsible, and thus the cause, if it is felt, as the NTSB apparently did, that the violation of the rule was the appropriate target for interference. The background perspective or value is that rules for maintenance specified by the manufacturer should be followed, unless there are good reasons not to do so. Thus it is plausible that in cases of undesirable effects, the cause selector's basis for selecting *x* from all the possible candidates as the cause was that the selector felt that *x* was the appropriate target of interference in order to have avoided the effect, and so deemed *x* responsible for the effect, and thus the cause.

I have used the phrase "appropriate target of interference" in recognition of the fact that actual elimination of the cause itself might not be the most appropriate way to have avoided the effect. On some occasions it might have been better to have interfered with the causal chain from the cause to the effect. For example, one might deem sunspots the cause of the static on the radio, although the best way to have avoided the static was to put an inexpensive filter in the radio. Though the sunspots were the cause, the best way to have dealt with them in order to have avoided the effect was to treat sunspots as a target of interference. Breaking the causal chain between the target and the effect by inserting a filter would have done this. I am indebted to James Wallace (personal conversation) for this point and example.

Examples so far have involved undesirable effects. But sometimes we select the cause of a desirable effect. If the effect is deemed desirable by the cause selector, the cause selector's reason for selecting one thing as the cause often is that the cause selector judges that (of the things satisfying Part 1) the thing chosen made the most important contribution to the production of the effect (given the other conditions), and deems it responsible and thus the cause.

Cases where the effect is neither desirable nor undesirable can be handled by the same approach as for undesirable effects: If we had wanted to and were able to, the best target of interference in order to have avoided the effect was *x*, which was justifiably deemed responsible and therefore the cause.

One source of my idea for this view is H. L. A. Hart's essay, "The Ascription of Responsibility and Rights" (1952), in which Hart was using the ascription of responsibility as part of action attribution in a theory of action. Hart's paradigm case was "He *did* it", which is very much like 'Faulty maintenance *did* it.' Both are similar to 'He *caused* it to happen' and 'Faulty maintenance *caused* the crash.'

6. DEFENDING A SOLE SINGULAR CAUSAL CLAIM

If all this is so, then the defense of a sole singular causal claim calls for both showing 1) that the condition selected as the cause is factually one of a number of conditions that were jointly sufficient to bring about the effect, and 2) that deeming the selected condition to be the responsible one is justified. Defense of the first, as I earlier noted, ordinarily depends very heavily on standard knowledge of causal mechanisms (which consists of knowledge of causal chains and causal generalizations) and the situations. Defense of deeming the selected condition responsible calls in part for showing that one's perspective or value is justified.

7. APPLICABILITY TO CONTROLLED EXPERIMENTS.

Waters (2007) concluded that singular causes can be determined solely on the basis of the ontological facts in closely controlled experiments, for example, where the independent variable is manipulated. I suspect that he is wrong because, as I see it, it is always open to me to deem responsible some earlier or later item in the causal chain (such as the decision to do the experiment) or some other factor in the experimental design, which might involve reconceptualizing the variables.

Some notorious examples: In the Tuskegee syphilis experiment, a critic might well hold that the decision to do the experiment, or the decision to withhold treatment from the infected subjects, rather than syphilis itself, should be deemed responsible for the deaths, and thus deemed the cause. In the Guatemala syphilis/penicillin experiment, doing the experiment, or the decision to deliberately infect the subjects, rather than withholding penicillin, might be deemed responsible and thus deemed the cause of the syphilis that remained. All of these factors were in the causal chains leading up to the effect. They are not ruled out by controlling the variables. In the Western Electric Hawthorne experiments, first the increase in lighting was held to be the cause of the increase in productivity. But then when a decrease in the lighting back to the original intensity was followed by a further increase in productivity, some people concluded that workers' awareness of management interest was the cause. But why not pick variety in work conditions, or making the workers' day more interesting as a result of curiosity, to be the cause (thus involving a reconceptualization of the variables)? And of course, why not pick the decision to do the experiment? Time is short, so I'll leave it at that.

8. SUMMARY

After providing several examples, I have offered the following non-reductive analysis of sole singular causal claims:

To make a *sole singular causal claim* of the form, 'x was the cause of y' (or 'x caused y'), is 1) to *assert* that x together with other things brought about y, and 2) to *deem* x responsible for the occurrence of y.

This analysis radically differs from other approaches to causal reasoning in its inclusion of a performative, "deem", making responsibility ascription logically prior to selection of the cause, and introducing a subjective element in selection of the cause. But perhaps, given the continual disagreements over the years, a radical departure is needed.

Defense of this analysis consists of fairly standard considerations for Part 1. In support of Part 2, the first basic reason is that none of the approaches that I have seen can reliably be depended on to pick out one thing justifiably as the cause. These approaches are: picking a sufficient condition, given other conditions; IBE; picking a necessary condition, given other conditions; picking a condition both necessary and sufficient, given other conditions; correlation; picking a deviation from the norm; picking a free deliberate human action; and picking a manipulated controlled independent variable in an experiment. Secondly, the analysis works for all the examples I have presented, and for all others that have occurred to me.

I realize that there is much more to say about this difficult topic.

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Commentary on “DEFENDING SOLE SINGULAR CAUSAL CLAIMS” by Robert Ennis

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1. Ennis is dealing with a very important topic. In fact, the theoretical analysis of causation in general goes back at least to Aristotle. On the other hand, the practical ramifications of Ennis’s present subtopic extend to such problems as what to do in response to the 2010 Gulf Oil Spill and how to get out of the current global Great Recession.

2. I begin with a number of miscellaneous small points, and hope that I shall have the time to develop something deeper. My desire to develop something deeper in this commentary has an intrinsic motivation, above and beyond scholarly good manners and conference etiquette. What I mean is that, as I shall explain at the presentation of my own paper (Finocchiaro 2011) at this conference, and as I have had occasion to elaborate in several other contexts, I am working on a book-length project dealing with meta-argumentation. This project is a study of meta-arguments, which are simply arguments about arguments, by contrast with ground-level arguments, which are arguments about such things as natural phenomena, historical events, human actions, and metaphysical entities. Now, in the study of argumentation I follow an approach which for some time I have labeled “historical-textual,” and which derives in part from Toulmin’s program of applied logic; that is, my approach is pragmatic, empirical, historical, comparative, naturalist, and simultaneously descriptive and normative. Accordingly I am now studying meta-arguments from two contexts or sources: famous meta-arguments and theoretical meta-arguments. Famous meta-arguments are from classic works that have achieved perennial relevance, such as Mill’s critique of traditional arguments for the subordination of women to men; Hume’s critique of the design argument for the existence of God; Galileo’s critique of the Aristotelian and Ptolemaic arguments for the earth standing still at the center of the universe, and Dutchman William the Silent’s *Apologia* against Philip II King of Spain. Theoretical meta-arguments are argument by current logicians and argumentation theorists that attempt to justify their own theoretical claims. In the past I have focused on arguments about various definitions of the concept of argument, about common methods of evaluating arguments, and about pro-and-con or so-called conductive arguments. In my paper at this conference, I am focusing on arguments about deep disagreements and related phenomena such as standoffs of force five and fundamental philosophical controversies.

Now, in line with the strand of research on theoretical meta-arguments, an important subset of such arguments is represented by arguments presented in papers delivered at scholarly conferences on argumentation. Ennis’s paper is one such a theoretical meta-argument. Hence, aside from etiquette and good manners, I have methodological and substantive theoretical reasons for wanting to take seriously the task of being a com-

mentator. Whether I shall be able to fulfill this additional self-imposed methodological obligation remains to be seen.

3. Be that as it may, my first small point is to request a clarification regarding the meaning Ennis attaches to sole singular causal claims, namely assertions of the form “x was the cause of y.” His distinction between these and partial singular causal claims of the form “x was a cause of y” and general causal claims of the form “X’s cause Y’s” is clear enough. However, I believe it would also be useful to say something about the differences and similarities among: claims of the form “x was *the* cause of y,” claims of the form “x was the *main* cause of y,” and claims of the form “x was the *only* cause of y.” I don’t think these three variations of sole singular causal claims are irrelevant or non-existent, and it seems to me that the respective justifications of these variants need not be the same.

Perhaps, to say “x was the cause of y” is ambiguous between saying “x was the main cause of y” and saying “x was the only cause of y.” Presumably, an only-cause claim is stronger than a main-cause claim, and so would be harder to justify. Finally, since Ennis usually italicizes the definite article *the* in the formulation of a sole singular causal claim, there is also the question whether the presence or absence of such italics makes a difference in sole singular causal claims of the form “x was the cause of y.”

Moreover, even partial singular causal claims come in more than one variety. For example, there is certainly a difference between saying “x was a cause of y” and saying “x was a primary cause of y”; and it would be worth of some reflection to examine whether the latter means the same as “x is an essential cause of y.” The latter type are still not equivalent to Ennis’s sole singular causal claims, but might be labeled *primary* and *essential* singular causal claims. Their occurrence and importance may be gleaned from recent discussions of the causes of the Great Recession (Financial Crisis Inquiry Commission 2011: xxvii, 413-19), as well as from Galileo’s discussion of the causes of the tides (Galilei 1997: 293-96, especially notes 21 and 26).

4. My next point is that, at times, it seems that Ennis conceives his project to be that of providing an analysis of sole singular causal claims (of the form “x was the cause of y”), and that for this purpose, as he states, “the task is to provide logically necessary and sufficient conditions for something justifiably being judged to be *the* cause” (section 5.4). I would like to question this requirement of logically necessary and sufficient conditions. I am not sure the requirement is correct or really needed by him

It is not correct for the following reason. Such talk of logically necessary and sufficient conditions makes it sound as if the task is find a set of conditions c_1, \dots, c_n such that we can formulate the principle that “x is the cause of y iff $c_1 \& \dots \& c_n$ all hold.” Such conditions would be individually necessary and jointly sufficient. In other words, such a principle, together with other premises stating the occurrence or non-occurrence of these conditions would enable us to construct deductively valid arguments whose conclusions would be assertions that x was the cause of y, or that x was not the cause of y. This deductivist requirement seems too stringent. I believe the task should be conceived as being that of characterizing the arguments “for something justifiably being judged to be *the* cause,” to use Ennis’s own words (section 5.4).

I believe this less stringent requirement is all Ennis needs, and the one that corresponds to what he is actually doing. In fact, his reference to justification and to judg-

ment in the phrase “justifiably being judged” is a recognition of the less stringent requirement. Moreover, all that his constructive proposal provides is a justification for a judgment, rather than logically necessary and sufficient conditions.

Ennis’s proposal is the following. First, “in cases of undesirable effects, the cause selector’s basis for selecting *x* from all the possible candidates as the cause was that the selector felt that *x* was the appropriate target of interference in order to have avoided the effect, and so deemed *x* responsible for the effect, and thus the cause” (section 5.6). On the other hand, “if the effect is deemed desirable by the cause selector, the cause selector’s reason for selecting one thing as the cause often is that the cause selector judges that (of the things satisfying Part 1) the thing chosen made the most important contribution to the production of the effect (given the other conditions), and deems it responsible and thus the cause” (section 5.6). In other words, “defense of deeming the selected condition responsible calls in part for showing that one’s perspective is justified, which is needed to show that the putative cause was, or would have been, the most appropriate target of interference, if we were able to interfere” (section 6).

Without entering into the intrinsic soundness of this proposal, the main point I want to make now is that what Ennis is studying is the nature of the reasons and justifications given for responsibility claims, and hence for sole singular causal claims. The need to find logically sufficient and necessary conditions is an additional requirement which he does not need.

This point is important, especially in this particular context, because the more correct conception of what Ennis is doing, in terms of reasons and justifications rather than sufficient and necessary conditions, establishes a closer connection with argumentation. This point has been eloquently made by Pollock, whose relevant arguments would merit taking into account in this regard.¹

5. Another small comment regards the distinction between objectivity and subjectivity, to which Ennis appeals on more than one occasion (sections 2, 8). Ennis’s point seem to be that his analysis of sole singular causal claims has a subjective as well as an objective element. The analysis is objective insofar as part of what is involved in a sole singular causal claim is the assertion that *x* together with other things brought about *y*. But in his own view, his analysis is subjective inasmuch as the second part of the analysis claims that sole singular causal claims have a second part to the effect that *x* is deemed to be responsible for the occurrence of *y*; and in his view such ascription of responsibility is a subjective matter.

I would want to question this distinction between objective and subjective elements as being an oversimplification. I am sure Ennis knows better, but the impression he

¹ Some of his words are worth quoting (Pollock 1994: vii): “One of the most firmly entrenched beliefs of contemporary philosophy is that the only way to analyze a concept is to state its truth conditions. In epistemology, this has led to the search for reductive analyses. These are analyses that state the truth conditions of concepts in terms of the grounds we employ in ascribing the concept to things. Thus we are led to phenomenalism and behaviorism, and their analogues in other areas of knowledge. But these attempts at reductive analyses have invariably failed, leaving epistemology shipwrecked on the shoals of a barren theory of conceptual analysis. The purpose of this book is to defend an alternative theory of conceptual analysis according to which concepts can be analyzed in terms of their justification conditions rather than their truth conditions. The first two chapters provide a theoretical justification for this alternative scheme of analysis, but the strongest possible argument in its favor must consist of actually carrying out the proposed analyses. Accordingly the remaining chapters attempt to provide the analysis for a number of epistemologically problematic concepts, and in so doing solve a number of traditional epistemological problems.”

gives in this part of his paper is that the subjectivity of deeming x responsible for y has to do with the fact that, to use his own words, “this deeming always assumes a perspective, and often values” (section 2). This makes it sound as if the objective part of the causal claim, namely the assertion that x together with other things brought about y, does not assume a perspective or values. And this presupposition seems to me to be untenable.

I do not mean to imply that there is no difference between the two parts into which Ennis analyzes sole singular causal claims. It seems to me that there is. But the difference lies, I believe, in the difficulty of justification, namely the difficulty of finding good arguments justifying the two parts, respectively. The ascription of responsibility is typically much more difficult to justify that the assertion of the causal efficacy of x in producing y. And I would add, ascertaining such a difference would seem to be a typical problem in argument analysis, typical, that is, of what may be called the bread and butter of argumentation theory.

6. And this brings me to a more substantive and concrete small point. It pertains to the second part of Ennis’s analysis, which, as we have seen involves the ascription of responsibility to x for the occurrence of y. Now, in most cases the effects as well as the causes are natural phenomena or physical objects, and in such cases I have difficulties with the ascription of responsibility to natural occurrence or physical objects. That is, when we deem x responsible for the occurrence of y, we are ascribing responsibility to an entity devoid of intelligence and will, and I worry that it may be a category mistake to do so. At the very least, Ennis owes us an analysis of the concept of responsibility.

7. Last but not least, in my list of specific comments, Ennis’s analysis cries out to be tested by means of a case study regarding a recent and ongoing causal controversy, that is the controversy over the causes of the current Great Recession. This would be in line with his descriptions of and references to the real example of the causes of the 1979 airplane crash of a DC-10 airplane whose left engine broke loose and fell off. It would also be in line with his references to other realistic cases such as the wilting of some flowers in a garden and the 2010 Gulf Oil Spill. However, the problem of the causal explanation of the Great Recession is an unbelievably promising case for the following reason.

In May 2009 the federal government appointed a “National Commission on the Causes of the Financial and Economic Crisis in the United States.” Then in January 2011 the commission issued its report, and this report is easily accessible online,² as well as in an inexpensive paperback book, although it should be added that it is almost 600 pages long. However, the most relevant point is that the ten members of the commission were not unanimous in the identification of the causes, and there were two minority reports, one endorsed by three members, the other by a single member. Now the crucial point for us is that the main issue of disagreement was whether or not a single-cause explanation is tenable, and if it is not, whether the many causes must be subdivided into those that were essential and those that were non-essential. Those in the minority claimed both that no single-cause explanation was tenable, all such explanations being oversimplifications, and that not all of the many causes were equally important, but only some were essential. This discussion would seem to be almost tailor made to provide material for resolving the issue being examined by Ennis.

² At: <<http://cybercemetery.unt.edu/archive/fcic/20110310172443/http://fcic.gov/>>

This last comment is a suggestion regarding the empirical testing of Ennis's analysis by examining this empirical material. Now, this material is so rich, relevant, and important that it would be false modesty on my part to call this suggestion a small point.³

³ Some quotations will convey this extraordinary relevance and promise. First to indicate how tempting it is to advance single-cause explanations, I quote two sources. The first come from the *Financial Crisis Inquiry Report's* introductory summary of the majority's conclusions, where at one point they feel the need to summarize the summaries, in the following words: "In this report, we detail the events of the crisis. But a simple summary, as we see it, is useful at the outset. While the vulnerabilities that created the potential for crisis were years in the making, it was the collapse of the housing bubble—fueled by low interest rates, easy and available credit, scant regulation, and toxic mortgages—that was the spark that ignited a string of events, which led to a full-blown crisis in the fall of 2008" (Financial Crisis Inquiry Commission 2011: 16). The second comes from a recent column by no less a connoisseur than Nobel Prize economist and *New York Times* columnist Paul Krugman: "The Great recession was brought on by a runaway financial sector, empowered by reckless deregulation. And who was responsible for that deregulation? Powerful people in Washington with close ties to the financial industry, that's who. Let me give a particular shout-out to Alan Greenspan ..." (Krugman 2011: 3). On the other hand, the main minority report begins with the following methodological considerations, which merit careful reflection:

"During the course of the Commission's hearings and investigations, we heard frequent arguments that there was a single cause of the crisis. For some it was international capital flows or monetary policy; for others, housing policy; and for still others, it was insufficient regulation of an ambiguously defined shadow banking sector, or unregulated over-the-counter derivatives, or the greed of those in the financial sector and the political influence they had in Washington.

"In each case, these arguments, when used as single-cause explanations, are too simplistic because they are incomplete. While some of these factors were essential contributors to the crisis, each is insufficient as a standalone explanation.

"The majority's approach to explaining the crisis suffers from the opposite problem—it is too broad. Not everything that went wrong during the financial crisis caused the crisis, and while some causes were essential, others had only a minor impact. Not every regulatory change related to housing or the financial system prior to the crisis was a cause. The majority's almost 550-page report is more an account of bad events than a focused explanation of what happened and why. When everything is important, nothing is.

"As an example, non-credit derivatives did not in any meaningful way cause or contribute to the financial crisis. Neither the Community Reinvestment Act nor removal of the Glass-Steagall firewall was a significant cause. The crisis can be explained without resorting to these factors.

"We also reject as too simplistic the hypothesis that too little regulation caused the crisis, as well as its opposite, that too much regulation caused the crisis. We question this metric for determining the effectiveness of regulation. The amount of financial regulation should reflect the need to address particular failures in the financial system. For example, high-risk, nontraditional mortgage lending by nonbank lenders flourished in the 2000s and did tremendous damage in an ineffectively regulated environment, contributing to the financial crisis. Poorly designed government housing policies distorted market outcomes and contributed to the creation of unsound mortgages as well. Countrywide's irresponsible lending and AIG's failure were in part attributable to ineffective regulation and supervision, while Fannie Mae and Freddie Mac's failures were the result of policymakers using the power of government to blend public purpose with private gains and then socializing the losses. Both the "too little government" and "too much government" approaches are too broad-brush to explain the crisis.

"The majority says the crisis was avoidable if only the United States had adopted across-the-board more restrictive regulations, in conjunction with more aggressive regulators and supervisors. This conclusion by the majority largely ignores the global nature of the crisis" (Financial Crisis Inquiry Commission 2011: 414).

In short: "The Commission's statutory mission is 'to examine the causes, domestic and global, of the current financial and economic crisis in the United States.' By focusing too narrowly on U.S. regulatory policy and supervision, ignoring international parallels, emphasizing only arguments for greater regulation, failing to prioritize the causes, and failing to distinguish sufficiently between causes and effects,

In fact, I am convinced that it is so promising that I feel some methodological justification in bringing this commentary to an end. In doing so I need not rely merely on the practical justification that I have more than exhausted the space or time allotted for this commentary.

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the majority's report is unbalanced and leads to incorrect conclusions about what caused the crisis" (Financial Crisis Inquiry Commission 2011: 416).

Reply to Maurice Finocchiaro

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Professor Finocchiaro suggested that I should, in addition to sole singular causal claims, consider the claims that something was the main cause, the only cause, a primary cause, and an essential cause. He is absolutely right, but I did not do so in this essay because of our time limits. In a revision I will do so for these and other forms of singular causal claims, and, based on what I have already done, expect that the basic elements of the proposed analysis will be similar. So, for example (assuming that Part 1 of the proposed analysis holds) judging something to be the main cause will assume deeming it mainly responsible for the effect; and judging something to be the only cause will assume deeming it to be the only thing responsible for the effect.

The Great Recession. He also suggested that I undertake a study of claims in *The Financial Crisis Inquiry Report* (2011) about the caus(es) of the Great Recession. I agree that such a study would be interesting and valuable, but did not undertake it for two reasons: First I do not feel understand some significant factors in the controversy, including credit-default swaps and non-credit derivatives, so would not always be able to grasp the different positions. A second reason is that I believe that some empirical facts about the causal nexus leading up to the recession are in dispute. The airplane crash example does not have these problems, and therefore is better for the purpose of introducing my analysis. My primary purpose was to understand why, even when all rational parties agree on the causal nexus (basically Part 1 of the proposed analysis), they often make conflicting singular causal claims.

However, I can tentatively comment on some of the principal statements of and disagreements between the majority view and the minority view in *The Financial Crisis Inquiry Report*, and comments by Paul Krugman, as quoted by Finocchiaro. I will exhibit how responsibility ascription plays a role in the claims quoted, although the metaphorical language (e.g., “sparked”, “fueled”, and “a particular shout-out”) does leave some room for variation in interpretation.

The majority claimed that the collapse of the housing bubble was the proximate cause of (“sparked”) the recession, “fueled” by four other factors, “low interest rates, easy and available credit, scant regulation, and toxic mortgages”. Part 2 of the proposed analysis, adapted to this case, holds that the majority deemed the housing bubble collapse proximately responsible, but also deemed these four other factors partly responsible as well—*probably* for the housing bubble as an intermediary. Note the chaining of responsibility ascriptions that is congruent to the chaining of causal claims.

However, the words “sparked” and “fueled” together suggest that the collapse of the housing bubble and the four factors were joint concurrent partial causes. Hence I only said “probably”.

The minority report complained about the alleged oversimplifications in the Commission's discussions exhibited by sole singular causal thinking, which is a consequence of deeming only one thing responsible. The minority deemed a variety of factors responsible, and thus selected several partial causes, four by one way of counting.

The minority also complained about the lack of discriminatingly varied contributions of the various partial causes. This in my terms would be a complaint about the lack of discriminating degrees of deemed responsibility.

But it is not clear whether the minority is accusing the majority of sole-singular-causal thinking. At one point (the next to last paragraph in Finnochiaro's quotation), the minority seems to be doing that—with the majority allegedly picking out the lack of across-the-board more restrictive regulation as the cause, but at another point (the third paragraph of the minority report as quoted by Finnochiaro), withholds this complaint.

In any case, in Finnochiaro's quotation of Paul Krugman (2011), Krugman engaged in sole-singular-causal thinking. He held that it was chiefly Alan Greenspan who brought about deregulation, which was *the* primary cause of the runaway financial sector that was the cause of the recession. As I see it (assuming that Part 1 of the proposed analysis is satisfied), Krugman deemed Greenspan most responsible for the deregulation that Krugman deemed responsible for the runaway financial sector that Krugman deemed responsible for the recession. This chaining of responsibility ascriptions matches and explains Krugman's causal chain, each factor being a sole singular cause.

I am puzzled by Finnochiaro's calling the differences between multiple-cause ascription and sole-singular-cause ascription "methodological", hinting I think that there is something methodologically wrong with sole-singular-cause ascription. But these are substantive, not methodological, differences:

The minority deemed a number of factors responsible (to different degrees), while Krugman and the majority report (next-to-last paragraph of Finnochiaro's quote) deemed one factor responsible, or primarily responsible. To me this suggests that the sole-singular-cause ascribers felt that there was one main appropriate target of interference that would have been the best focus of interference in order to have avoided the recession, while the multiple-cause ascribers felt that there were a number of targets of interference that jointly would have been the best focus of interference in order to have avoided the recession. This is a substantive disagreement: Was it better to have interfered with one specified thing or several specified things in order to have avoided the recession?

What all this suggests is that people do dispute (not simply as a matter of method) whether to deem one thing, or more than one thing, responsible; they dispute the degree of responsibility ascribable to each of two or more things; and they differ on how many things in the specified chain to deem responsible. All this is reflected in their causal judgments.

I have not here taken a position on how many or which things to deem responsible in this complex economic discussion. I have only suggested that differing responsibility ascriptions lie behind these differing causal claims.

However, it does appear that in the minority report there is also some dispute about the application of Part 1 of the analysis. For example "non-credit derivatives", according to the minority, "did not in any way cause or contribute to the financial crisis." As I interpret this, the minority is denying that non-credit derivatives brought about the recession given the other conditions, which means that non-credit derivatives did not play any role, and thus that non-credit derivatives do not satisfy Part 1 of the analysis. Appar-

ently there were some who felt that non-credit derivatives did satisfy the Part 1 requirement. This reinforces my reluctance to use the causing of the recession as an example, especially since I do not even know what a non-credit derivative is.

Regardless, sometimes, perhaps even in this recession discussion, it is appropriate to deem one thing responsible, making it the cause. We do it all the time and find it very useful to do so. It was useful in the airplane crash case. It was useful for the NTSB to pick one thing as the appropriate target for interference, to deem one thing (among the many that satisfy Part 1 of the analysis) responsible, and to select one thing as the cause, the latter following from the other two. It was neither capricious nor invidious discrimination for the NTSB to do what it did, and it is not a methodological issue.

I agree with Finocchiaro about the value of a study of causal claims in the recession discussion, which actually I have just partially attempted. But for purposes of introducing the ideas in this essay, this proposed example would be too difficult to manage.

Category mistake. Finocchiaro's suggestion that it is a category mistake to apply the concept *responsibility* (in the responsibility-ascription sense) to inanimate objects is I think wrong. We usefully do it all the time. For example I learned from this morning's paper that the weather was responsible for the poor grape harvest in California this year. Is there anything the matter with that?

Objective vs. subjective. His suggestion that it is an oversimplification to use the concepts, *objective* and *subjective*, is a matter of judgment. For my purposes I think that these concepts are appropriate. They communicate what I want to communicate. I would be willing to substitute the distinction between matters of fact (or matters of ontology) and perspective, but these he might also might call an oversimplification. In either case they can be used to make the point I want to make.

"The task is to provide logically necessary and sufficient conditions for something's justifiably being judged to be the cause." After quoting my previously italicized statement, Finocchiaro judged my search for such conditions to be a search for conditions such that "x is the cause of y iff c1 & ... & cn all hold." But I did not ever say that the task is to give logically necessary and sufficient conditions for "x is the cause of y". I gave conditions (which I believe are each necessary and jointly sufficient) for *one's being justified in claiming* that x was the cause of y, not for x's having been the cause of y. I am not primarily doing ontology, though ontology is behind Part 1. I am mostly doing philosophy of language and argumentation theory. The two necessary and jointly sufficient conditions for one's being justified in claiming that x was the cause of y are 1) that one is justified in asserting that x, together with other things brought about y, and (2) that one is justified in deeming x responsible for y. This essay is primarily about causal claims and their defense, not causation.

Pollock. Finocchiaro recommended that I attend to John Pollock's challenges to the utility of truth conditions, as opposed to justification conditions. This is what I have done. I am talking about justification conditions for sole singular causal claims. There are no truth conditions (as "truth conditions" is standardly interpreted) for deeming something responsible.

Values in Part 1 of the proposed analysis. Finocchiaro noted that I implied that the assertion that x together with the other things brought about y (Part 1) does not assume a perspective or values. He said that he sees this proposition to be untenable, but did not say why. I wonder why he thinks so.

The intrinsic soundness of the proposal. Finocchiaro mentioned but avoided “entering” into the topic of the intrinsic soundness of the proposal. So I wonder what he thinks about the main point of my essay.

Speech-act challenges. A somewhat standard set of criticisms to speech-act interpretations of key terms (such as ‘know’, ‘true’, ‘probably’, and ‘good’) was supplied to me by Kirk Ludwig (personal communication) and can probably be traced back to John Searle’s (1969) discussion of “The Speech Act Fallacy” (Section 6.2). A trial run suggests that the defense against these criticisms that appears in my essay about ‘probably’ (2006) would also apply with appropriate modifications to my speech-act interpretation of ‘deem’ in this essay. I plan to examine these criticisms in a revision of this essay, and wonder how Finocchiaro will feel about the application of these criticisms to my speech-act interpretation of ‘deem’ (in the hope that he will read them and comment when I send them to him).

I am deeply grateful to Professor Finocchiaro for his scholarly and thought-provoking comments. I have greatly profited from them and hope for continued discussion.

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