

THOMISM, GROUNDING AND *PER SE* CAUSAL SERIES*

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Abstract: In recent years the notion of grounding has been extensively discussed within metaphysics, whilst there has also been a revival of interest within Thomistic thought. In this paper I want to explore the connections between one aspect of Thomistic metaphysics, namely its account of *per se* or essentially ordered causal chains, and grounding. The aim of the paper is to suggest that the two are very closely connected, and that contemporary metaphysicians would do well to attend to medieval debates in further thinking about grounding. In order to do this the paper first outlines a dominant view of *per se* causal chains and then goes on to explicate an influential notion of grounding. After this it draws out the similarities and differences between *per se* causal chains and grounding, and concludes with some thoughts as to how they might be related.

In recent years the notion of grounding has been extensively discussed within metaphysics, whilst there has also been a revival of interest within Thomistic thought. In this paper I explore the connections between one aspect of Thomistic metaphysics, namely its account of *per se* or essentially ordered causal chains, and grounding. The aim of the paper is to suggest that the two are very closely connected, and that contemporary metaphysicians would do well to attend to medieval debates in further thinking about grounding. In order to do this the paper will first outline a dominant view of *per se* causal chains, since it is largely unknown to contemporary metaphysicians. I will then briefly explicate an influential notion of grounding, since this is more well known to contemporary ears, and proceed to outline the similarities and differences between the two notions. Finally, I conclude by suggesting how the two notions might be related.

I. *PER SE* CAUSAL CHAINS

For the medieval, *per se* causes are everywhere, with Suarez going so far as to claim that ‘only this sort of cause is a cause properly and absolutely speaking’.¹ Yet look as you might,

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¹*Disputationes Metaphysicae* 17.2.2—owing to this, almost the whole of the next disputation, Disputation 18, is concerned with only *per se* causality. Aquinas thinks similarly, *Summa Theologiae* I-II q.75, a.1. However, this should not lead one to think that *per se*, or essential order, is limited to causation alone. For a nice discussion of this in Scotus, see T. M. Ward, ‘Duns Scotus on essential order in De Primo Principio and elsewhere’, in *Interpreting Duns Scotus*, ed. G. Pini (New York: Cambridge University Press, 2021); and R. Inman, ‘Essential Dependence, Truthmaking, and Mereology: Then and Now’, in *Metaphysics: Aristotelian, Scholastic, Analytic*, eds. L. Novák, D. Novotný, P. Sousedčík, & D. Svoboda (Frankfurt: Ontos Verlag, 2012), 79–80.

they are nowhere to be found in contemporary introductions to causality.² In fact in my experience, when one mentions *per se* causation to contemporary metaphysicians they are unlikely to have any idea what is being talked about. This is a sorry state of affairs, particularly since much historical work investigated this notion and many thoughts have relied upon it, for example, the first three of Aquinas's ways to God.³ What, then, is *per se* causation? To arrive at an informative answer it will first be beneficial to explore contemporary notions of causation.

Many recent years have been spent trying to provide reductive accounts of causation, but the result of this has largely been negative. Different analyses have been proposed and counter-examples, albeit sometimes somewhat imaginative, have repeatedly been deployed to show how the analysis fails. Given this, many have come to think that either causation cannot be reductively analysed, or that we must accept some of the unintuitive consequences from these analyses. Since many metaphysicians find these hard to swallow they have adopted primitivism concerning causation, suggesting that, 'barring a fundamental change in approach, the prospects of a relatively simple, elegant and intuitively attractive, unified theory of causation, whether ontological reduction or conceptual analysis, are dim'.⁴ Far better, it is suggested, that we 'take a hint from the semanticists, and abandon the attempt at giving an informative account of the meaning of the concept. Perhaps the most we can expect to say about "causation" is that it means causation'.⁵

Nevertheless, despite causation being thought of as primitive, there are still a number of elements regarding it upon which many metaphysicians agree. Causes are thought to be temporally prior to their effects, and involve some type of transitivity and asymmetry, and the fundamental causal relation is between events.⁶ Yet, it is sometimes admitted that 'abnormal causal relations are possible: [for example] perhaps causes can be simultaneous with their effects', with these thought of as 'special cases, likely needing special treatment'.⁷

Given this, medieval, and therefore Thomistic, accounts of causation will count as a 'special case'. As Klima notes, for the medievals, 'the relation of efficient causality on this conception is primarily not a necessarily diachronic relation between successive events, but rather a possibly synchronic relation, primarily among primary substances having their active and passive powers determined by their nature'.⁸ As such there are many differences between Thomistic and contemporary notions of cause. Nevertheless, there has been a revival of some aspects of this thought, most notably given the recent resurgence of power

²Klima makes a similar sort of claim regarding efficient causality in G. Klima, 'Whatever Happened to Efficient Causes?', in *Skepticism, Causality and Skepticism about Causality*, eds. G. Klima, & A. W. Hall (Cambridge Scholars Publishing, 2013).

³Thomas Aquinas, *Summa Theologiae* I, q.2, a.3. Much else has relied on this distinction too, for instance see (Ward, 'Duns Scotus on essential order in De Primo Principio and elsewhere'; M. M. Gorman, 'Ontological Priority and John Duns Scotus', *The Philosophical Quarterly* 43, no. 173 (1993): 460-471, <http://doi.org/10.2307/2219986>; R. Inman, *Substance and the Fundamentality of the Familiar* (New York: Routledge, 2018), 66-68.

⁴L. A. Paul & N. Hall, *Causation: A User's Guide* (New York: Oxford University Press, 2013), 249.

⁵J. Schaffer, 'Review: Cause and Chance: Causation in an Indeterministic World', *The British Journal of Philosophy of Science* 58 (2007): 869-874, 873.

⁶Facts and states of affairs are the two other dominant positions concerning what the causal relation are.

⁷Paul & Hall, *Causation*, 67.

⁸Klima, 'Whatever Happened to Efficient Causes?', 36.

metaphysics⁹ and the defence of substance causation.¹⁰ Nonetheless, the distinction between *per se* (essentially ordered) and *per accidens* (accidentally ordered) causal chains as of yet have not been obviously revived. However, perhaps given what I will say, they have somewhat been revived in disguise.

What exactly are *per se* causes? Here it is important to distinguish between different ways in which something can be said to be *per se*. Aquinas at one point writes that: ‘One thing is a *per se* cause of another when it produces the effect by the power of its own nature or form, and so it follows that the effect is intended *per se* by the cause’.¹¹ The idea here is that *per se* causes are those which produce their effect owing to a power it has in virtue of its nature, and secondly that the cause has a directedness towards the effect it causes. For example, the power of heat is an essential power of the fire, given the nature of fire, and one that is directed towards heating.¹² Whilst there are likely some similarities between this and grounding,¹³ my primary interest will be another way in which the language of *per se* cause, or essentially ordered, is used, specifically in reference to causal chains.¹⁴

Of these, Aquinas writes that the series ‘contains a number of parts that depend on each other and have a definite order, so that every one of that number of parts is essentially required’.¹⁵ The

⁹For example, see: G. Molnar, *Powers* (New York: Oxford University Press, 2003); A. Marmodoro, *The Metaphysics of Powers* (New York: Routledge, 2010); S. Mumford & R. L. Anjum, *Getting Causes from Powers* (New York: Oxford University Press, 2011); R. Groff and J. Greco, *Powers and Capacities in Philosophy* (New York: Routledge, 2013); J. Jacobs (ed.), *Causal Powers* (Oxford: Oxford University Press, 2018).

¹⁰For example, see: E. J. Lowe, *Personal Agency* (New York: Oxford University Press, 2008), 121-146; H. Steward, *A Metaphysics for Freedom* (New York: Oxford University Press, 2012), 197-247; A. Whittle, ‘A Defense of Substance Causation’, *Journal of the American Philosophical Association* 2, no. 1 (2016): 1-20, <http://doi.org/10.1017/apa.2016.1>; M.P. Paoletti, ‘Substance Causation’, *Philosophia* 51, no. 3 (2018): 1-22, <http://doi.org/10.1007/s11406-018-9991-8>; Mumford & Anjum, *Getting Causes from Powers*, 106-129; M. Huemer & B. Kovitz, ‘Causation as Simultaneous and Continuous’, *The Philosophical Quarterly* 53, no. 213 (2003): 556-565, <https://doi.org/10.1111/1467-9213.00331>.

¹¹*Summa Theologiae* I-II, q.85, a.5. Scotus also regularly speaks of *per se* or essential order, and for an excellent discussion of what he means by this see: Ward, ‘Duns Scotus on essential order in De Primo Principio and elsewhere’ and Gorman, ‘Ontological Priority and John Duns Scotus’.

¹²For more discussion of this use of *per se*, see G. Frost, *Aquinas on Efficient Causation and Causal Powers* (New York: Cambridge University Press, 2022), 48-52.

¹³This is something Inman draws out from Scotus, with Inman then going on to ‘take a page from the Subtle Doctor in explicating a more fine-grained notion of existential grounding in essentialist or non-modal terms’ (Inman, *Substance and the Fundamentality of the Familiar*, 66-68; R. Inman, ‘Grounding and Participation in God’, in *Neo-Aristotelian Metaphysics and the Theology of Nature*, ed. W. M. Simpson, R. C. Koons, and J. Orr [New York: Routledge, 2021]). The rest of *Substance and the Fundamentality of the Familiar* and ‘Grounding and Participation in God’ then provide an explanation as to how a neo-Aristotelian might see the impact of this notion on other questions in metaphysics (*Substance and the Fundamentality of the Familiar*) and philosophy of religion (‘Grounding and Participation in God’). Nonetheless, since Inman takes grounding to be ‘non-causal’ (Inman, *Substance and the Fundamentality of the Familiar*, 53-57; Inman, ‘Grounding and Participation in God’, 300), it is unclear whether he would put grounding to work as I do here, although he does seem to cite approvingly those who suggest the medievals’ view of causation was more like ontological dependence than how causation is often understood in the contemporary literature (Inman, ‘Grounding and Participation in God’, 317, n.25).

¹⁴As Kerr notes, nothing hangs on the differing terminology here (G. Kerr, ‘Essentially Ordered Series Considered Once Again’, *American Catholic Philosophical Quarterly* 91, no. 2 (2017): 155-174, 155 n.1, <http://doi.org/10.5840/acpq201732110>). For some nice introductions to *per se* causal series see G. Kerr, ‘Essentially Ordered Series Reconsidered’, *American Catholic Philosophical Quarterly* 86, no. 4 (2012): 541-555, <http://doi.org/10.5840/acpq201286445> and C. Cohoe, ‘There Must Be A First’, *British Journal for the History of Philosophy* 21, no. 5 (2013): 838-856, <http://doi.org/10.1080/09608788.2013.816934>.

¹⁵Thomas Aquinas, *Quodlibet* IX, q.1, a.1, in T. Nevitt & B. Davies, *Thomas Aquinas’s Quodlibetal Questions* (New York: Oxford University Press, 2020), 89.

key point here for Aquinas is that in a *per se* causal series, each member of the series depends upon the previous one in such a way that the previous member must exist and continually exert its influence such that the subsequent member can act. As he says: 'For when things are ordered essentially, it takes the action of all the previous ones to provide the last one'.¹⁶ This is in stark contrast to *per accidens* causal series, of which Aquinas writes that 'the parts of that number of things do not depend on each other'.¹⁷ To give an example, Aquinas thinks that a series of hammers a craftsman needed owing to the previous one wearing out is an example of a *per accidens* series, since the current hammer does not require the previous hammers' continual influence in order that the current hammer be powerful and exert its influence.¹⁸ Thus, as Aquinas says: 'Essentially a multitude is required in ordered [*per se*] causes and effects where one has an essential dependence upon another. ... But an accidental [*per accidens*] multitude is found when all the members of the multitude are posited, as it were, in place of one; and their mutual relation is such that it is a matter of indifference whether they be one or many, or more or fewer'.¹⁹

A useful logical notation has been proposed in the literature to compare these two causal series. First, consider a *per accidens* causal series proposed by Scotus, namely a father begetting a son.²⁰ The reason this is a *per accidens* series is that when a father begets a son, the son is no longer continually causally connected to his father, such that he no longer requires the father's continual causality in order to sustain him. This is most obvious if the father dies, for this would in no way imply that the son would die too. The son, therefore, after being begot by the father has his own independent existence, yet he still required the father to beget him in order to receive this existence. Kerr²¹ has suggested that we can illustrate this type of dependence as follows:²²

$$(A \rightarrow B) \rightarrow (B \rightarrow C) \rightarrow (C \rightarrow D) \rightarrow (D \rightarrow \text{etc.})$$

The point of this notation is to make clear that effect (B) of a cause (A) becomes independent from (A) once (B) is produced. That is (B) now has its own independent existence or causal power such that it can cause (C) without (A). Using this notation, we can show this, since one could remove $(A \rightarrow B) \rightarrow$ and yet nothing is lost from $(B \rightarrow C) \rightarrow (C \rightarrow D) \rightarrow (D \rightarrow \text{etc.})$. Thus, take the instance of the father dying, where (A) represents the father and (B) the son, the removal of (A) in no way prevents $(B \rightarrow C)$ from occurring, despite the loss of (A), given that (B) exists. (B) can still beget his own son (C).

Yet things are different in *per se* causal chains. To see this, take an example of such a chain from Aquinas: 'the soul sets in motion the natural heat by which nerves and muscles are moved, which, in turn, move the hands, which move a stick by which a stone is moved. In this series, each of the later members essentially depends upon every one that precedes'.²³ The key point, as Aquinas makes here, is that the latter members depend essentially on the previous members, such that if you removed them the whole chain of causes which succeed that which was removed

¹⁶ *Quodlibet IX*, q.1, a.1, in *Thomas Aquinas's Quodlibetal Questions*, 90.

¹⁷ *Quodlibet IX*, q.1, a.1, in *Thomas Aquinas's Quodlibetal Questions*, 90.

¹⁸ *Quodlibet IX*, q.1, a.1, in *Thomas Aquinas's Quodlibetal Questions*, 89-90.

¹⁹ Thomas Aquinas, *Quaestiones disputatae de veritate*, q.2, a.10, co.

²⁰ A. B. Wolter, *John Duns Scotus: Philosophical Writings, A Selection* (Indiana: Hackett Publishing Company, 1987), 40-41.

²¹ Kerr, 'Essentially Ordered Series Reconsidered', 545-546; Kerr, 'Essentially Ordered Series Considered Once Again', 157.

²² Note that my notation is slightly different from Kerr's in terms of both the letters used and addition of *etc.*

²³ *Quaestiones disputatae de veritate*, q.2, a.10, co; *Quodlibet IX*, q.1, a.1, in *Thomas Aquinas's Quodlibetal Questions*, 88-91.

and the hand which moves the stick. At the moment of causing, both the cause and effect are simultaneously present. Nevertheless, the key difference in *per se* chains, as opposed to *per accidens*, is that *all* the causes in the chain need to exist simultaneously in the *per se* case, but not all need to exist in the *per accidens* case. In the *per accidens* case, once the cause has done its work to produce its effect, the effect itself can exist independently of the cause, whereas this just is not true in the *per se* case.

Nonetheless, as mentioned above, simultaneous causation has a bad rap within much contemporary literature on causation, often being deemed a special case. Perhaps this is due to adopting too much of Hume's vision of causation, primarily coming to think the causal relata is one between events.³¹ On Aquinas's view this is wrong, since cause and effect are simultaneous are therefore contained within one event.³² We can see this through an example from Clarke when he writes, 'the cutting-of-the-orange-by-the-knife must be identical with the-orange-being-cut; otherwise the knife is not cutting anything at the moment of its cutting, nor is the orange being cut by anything at the later moment of its being cut'.³³ As the cause and effect are simultaneous, they comprise the same single event. Another nice example comes from Aristotle,³⁴ regarding a teacher teaching and a student learning, with the point being that a teacher is only teaching if the student is learning, as if the student isn't learning the teacher isn't teaching, but merely talking. The causal relata are therefore not between distinct events, on this way of thinking about things.

There might be a worry that arises from this, namely as to whether simultaneous causation implies instantaneous causation. But it needs to be stressed that this does not follow: something being simultaneous does not mean that it is also instantaneous, that is, an act of simultaneous causation can happen over a period of time.³⁵ Thus Aquinas writes, 'note that an efficient cause that acts through motion must temporally precede its effect, since the effect exists only at the end of the action, whereas every agent has to exist at the beginning of the action'.³⁶ The point here being, as Frost nicely puts it, 'while efficient causes in actuality are simultaneous with the motions effected through their power, they are indeed prior to the final result or end product of these motions. This is because it takes time for that final effect to be produced through the motion which the agent efficiently causes'.³⁷ Clarke is once again informative when he writes, 'it indeed takes me time to push a chair across the room; but there is no time at all between my pushing the chair and the chair being pushed'.³⁸ Thus, this single event, the pushing of the chair, may be spread out over time even though the cause and effect of the pushing, that is the chair being pushed and the chair moving, is simultaneous. Simultaneous causation does therefore not imply that the effect is instantaneous. Yet it is also important to notice that despite the cause being simultaneous with the effect there is still a

³¹W. N. Clarke, *The Creative Retrieval of Thomas Aquinas* (New York: Fordham University Press, 2009), 27-38.

³²The causal relata therefore seem to be substances/entities. It's not clear that this is true for Scotus, since for him the relata are more properly essences or natures rather than entities (Ward, 'Duns Scotus on essential order in De Primo Principio and elsewhere', 67-70).

³³W. N. Clarke, *The One and the Many* (Indiana: University of Notre Dame Press, 2001), 191.

³⁴Aristotle, *Physics* III, 3.

³⁵Feser makes this point nicely. See E. Feser, *Scholastic Metaphysics: A Contemporary Introduction* (Heusenstamm: Editiones Scholasticae, 2015), 146-48.

³⁶*Summa Theologiae* I, q.46, a.2, ad.1. Aquinas does allow that there are some cases where the effect is instantaneous, but they are rare. For one example he gives see *De Potentia Dei* q.3, a.13, ad.5.

³⁷Frost, *Aquinas on Efficient Causation and Causal Powers*, 54.

³⁸Clarke, *The One and the Many*, 192.

type of priority and asymmetry in play here, since the cause is prior to the effect, such that the effect depends upon the cause, and thus is asymmetric. As Aquinas says, ‘every cause, as cause, is naturally prior to that which it causes’³⁹, with this priority here being to do with the asymmetric dependence of the effect on the cause rather than anything to do with temporal priority.

The final distinguishing factor Scotus gives is that ‘in essentially ordered causes the causality is of another nature and order, inasmuch as the higher cause is more perfect. Such is not the case, however, with accidentally ordered causes’.⁴⁰ The textual support that Aquinas thought the same is not all that clear, but he does say, when contrasting that which is accidentally ordered with what is essentially ordered, that ‘if an infinite quantity arises from a number of things in the *same* order, and that number is only required accidentally, then the quantity is only *accidentally* infinite’.⁴¹ One could take it that the use of *same* here contrasts with what he says about essentially ordered causes, where no such language is used. However, exactly how to understand what is meant by this is unclear. For instance, Feser gives the example of the stick moving the stone, which is moved by the hand,⁴² and notes that the stick doesn’t have the power to move the stone inherently, but the hand ‘does, in a sense, have the inherent power to move other things, by virtue of which it imparts power to the stick. ... In that sense the mover of the stick has causal power of “another nature and order” than the stick, and of a “more perfect” sort. Principal or undervived causality, in other words, is of a higher and more perfect sort than instrumental or merely derivative causality’ (2015, 150). The thought, therefore, is that although there is this sort of causation in *per se* series, in *per accidens* cases each cause has the same nature as any other, with this being the case even between the first and last member. Adams, on the other hand, argues against this reading, at least in terms of Scotus’s understanding, claiming that ‘Scotus did not believe any more than Ockham did that in an essentially ordered series of causes, the prior was the more perfect in nature’.⁴³ Rather Adams suggests that higher nature only refers to the cause’s power extending more universally than it does within *per accidens* cases, with this merely making explicit what is implicit in the first distinguishing feature of *per se* causal series.

This then provides us with a fairly good understanding of both *per accidens* and *per se* causal chains, where I take it that *per accidens* causal chains look much more similar to contemporary notions of causation than *per se* chains. Nevertheless, I’m going to suggest that the notion of grounding has many similarities with *per se* causal chains and therefore that this notion may be revived.

II. GROUNDING

Metametaphysics has flourished in recent times, with one question that is often asked being how one should conduct metaphysical inquiry. Perhaps the most popular way in years gone by has been to adopt a Quinean methodology;⁴⁴ however, lately this has been questioned and an approach

³⁹Thomas Aquinas, *De Principiis Naturae*, chapter 4.

⁴⁰Wolter, *John Duns Scotus*, 41.

⁴¹*Quodlibet* IX, q.1, a.1, in *Thomas Aquinas’s Quodlibetal Questions*, 89. The italicising of ‘same’ is my own addition.

⁴²Aquinas uses this case in *Summa Theologiae* I, q.2, a.3, co.

⁴³Adams, *William of Ockham*, 781-782.

⁴⁴Simplifying, the Quinean says take your best scientific theory and assume what it says is true. Then translate the theory into a formal language and whatever you quantify over in this translated theory provides you with what you are ontologically committed to.

that asks what is fundamental has gained much prominence.⁴⁵ This way of doing things considers the world as hierarchically structured, and asks us to determine what is fundamental, or as Schaffer puts it, ‘what grounds what’.⁴⁶ Medievalists should already find interest here, since a hierarchical conception of nature is one that many medievals embraced following Aristotle, and indeed it is Aristotle that many contemporaries think they are following.⁴⁷ This then is the background in which grounding has entered the scene, but what exactly is grounding?⁴⁸

Schaffer claims that grounding is ‘an unanalysable but needed notion—it is the primitive structuring conception of metaphysics’.⁴⁹ Typically it is taken to be non-reductive,⁵⁰ irreflexive, asymmetric, and transitive, and thus has many similarities with causation.⁵¹ However, the easiest way to get a handle on what grounding is is usually thought to be by considering examples. Thus, the singleton set Socrates (from now on {Socrates}) is plausibly grounded in the entity Socrates, since the existence of Socrates explains the existence of {Socrates}. Further, this example shows another typical aspect of grounding which holds that: ‘The existence of Socrates necessitates the existence of the singleton set {Socrates}, and the existence of {Socrates} necessitates the existence of Socrates. But the existence of Socrates grounds the existence of his singleton, and not vice versa’.⁵² Further examples of grounding could be given and have been in the literature,⁵³ but for our purposes this should suffice.⁵⁴ Grounding, then, has become a very popular tool within metaphysics, much like *per se* order was in its day, and has been applied to many things. Yet you might be perplexed by my contention that grounding is similar to *per se* causal chains, since we are often told by a number of theorists that ‘grounding is often called “metaphysical explanation” exactly to distinguish it from “causal explanation”’.⁵⁵

⁴⁵For a good discussion and introduction to these issues and approaches see T. E. Tahko, *An Introduction to Metametaphysics* (Cambridge: Cambridge University Press, 2015); M. Plebani & F. Berto, *Ontology and Metaontology* (London: Bloomsbury, 2015).

⁴⁶J. Schaffer, ‘On What Grounds What’, in *Metametaphysics*, ed. D. Chalmers, D. Manley, & R. Wasserman (New York: Oxford University Press, 2009), 351.

⁴⁷For one instance of many see Schaffer, ‘On What Grounds What’, 351.

⁴⁸Bennett introduces a similar notion of ‘building’. See K. Bennett, *Making Things Up* (New York: Oxford University Press, 2017).

⁴⁹Schaffer, ‘On What Grounds What’, 364.

⁵⁰K. Fine, ‘The Question of Realism’, *Philosophers’ Imprint* 1 (2001):1-30, 15.

⁵¹Schaffer, ‘On What Grounds What’, 376.

⁵²G. O. Rabin & B. Rabern, ‘Well Founding Grounding Grounding’, *Journal of Philosophical Logic* 45, no. 4 (2016): 349-379, 352, <http://doi.org/10.1007/s10992-015-9376-4>; K. Fine, ‘Ontological dependence’, *Proceedings of the Aristotelian Society* 95, no. 1 (1995): 269-290, 269, <http://doi.org/10.1093/aristotelian/95.1.269>; J. Schaffer, ‘Monism: The priority of the whole’, *The Philosophical Review* 119, no. 1 (2010): 31-76, 35, <http://doi.org/10.1215/00318108-2009-025>.

⁵³K. Fine, ‘Essence and Modality’, *Philosophical Perspectives* 8 (1994): 1-16, 4-5, <http://doi.org/10.2307/2214160>; Schaffer, ‘On What Grounds What’, 375.

⁵⁴There is more to be said about grounding and its relationship to medieval philosophy, for instance: should it be understood modally, or existentially, or to do with essence, and if so how. I will by and large leave these questions untouched, although what I say below will mean that the view I gives fits better or worse into some of these camps. However, for more work on these questions see Inman, *Substance and the Fundamentality of the Familiar* and ‘Grounding and Participation in God’.

⁵⁵See Tahko, *An Introduction to Metametaphysics*, 93; M. J. Clark & D. Liggins, ‘Recent Work on Grounding’, *Analysis Reviews* 72, no. 4 (2012): 812-823, 812, <http://doi.org/10.1093/analys/ans086>; M. J. Raven, ‘Ground’, *Philosophy Compass* 10, no. 5 (2015): 322-333, 325, <https://doi.org/10.1111/phc3.12220>.

As I noted above (note 10), even Inman, who is partial to similarities between *per se* or essential order and grounding, thinks that grounding is non-causal.

However, some very recent work on grounding has contended that grounding should be likened to or at least is very similar to a type of causation,⁵⁶ with this sometimes being known as metaphysical causation.⁵⁷ Arguments for this have largely been from pointing out structural similarities between causation and grounding, where for instance both are seen as generative relations, both can be fruitfully formalised via structural equation models, both have the same structural problems to do with counterfactual analyses, and many other similarities.⁵⁸ Nevertheless, there are elements of grounding that seem different from causation, at least given the way causation is often thought about in contemporary metaphysics, and as such, worries about the similarity between these two notions are often expressed.⁵⁹ However, when one thinks about causation in terms of *per se* causal series, one can see some of these worries disappearing, since *per se* causal chains have features that typical contemporary analyses of causation do not.⁶⁰ With all this background it is time to turn to the similarities and differences between grounding and *per se* causal chains.⁶¹

III. SIMILARITIES AND DIFFERENCES

Similarities

Starting with the basics, we have seen that grounding is non-reductive, asymmetric, and transitive, yet so too are *per se* causes. Nevertheless, we *might* think the same is true of *per accidens* causal series, such that not much can be drawn from this, although I shall have more to say about transitivity later. Another similarity is from the fact that grounding, like *per se* causal chains, can be thought of as relating entities rather than events.⁶² This too will strengthen the causation-grounding parallel, since Schaffer takes the need to ‘replace “events” with more general “entities”’⁶³ in the case of grounding to be one reason as to why grounding and causation

⁵⁶J. Schaffer, ‘Grounding, transitivity, and contrastivity’, in *Metaphysical Grounding*, eds. F. Correia, & B. Schnieder (New York: Cambridge University Press, 2012), 122; J. Schaffer, ‘What not to Multiply Without Necessity’, *Australasian Journal of Philosophy* 93, no. 4 (2015): 644-664, <http://doi.org/10.1080/00048402.2014.992447>; T. Sider, *Writing the Book of the World* (New York: Oxford University Press, 2011), 145; A. Wilson, ‘Metaphysical Causation’, *Noûs* 52, no. 4 (2018): 723-751, <https://doi.org/10.1111/nous.12190>; T. Kivatinos, *Grounding, Causation and the Unity of Metaphysical Structure* (PhD Thesis, 2017); Bennett, *Making Things Up*, 67-101; K. Fine, ‘Guide to Ground’, in *Metaphysical Grounding*, 40.

⁵⁷There are differences amongst these theorists as to whether grounding is in fact a type of causation, with Bennett being the most affirming in this regard. See Bennett, *Making Things Up*.

⁵⁸See conclusion of Schaffer, ‘What not to Multiply Without Necessity’ and Wilson, ‘Metaphysical Causation’ for full lists.

⁵⁹Thus, Schaffer ultimately concludes ‘that causation and grounding are distinct notions’ (Schaffer, ‘What not to Multiply Without Necessity’, 96).

⁶⁰I do not mean here to claim that this would result in grounding ultimately being a type of causation, only that if *per se* causes were included as a type of causation the parallel between grounding and causation would be stronger. For some general criticism of the grounding causation analogy see S. Bernstein, ‘Grounding Is Not Causation’, *Philosophical Perspectives* 30, no. 1 (2016): 21-38, <https://doi.org/10.1111/phpe.12074>.

⁶¹Note that Flynn and Gel explore something like this too. See P. Flynn & E. F. Gel, ‘Is Grounding Essentially Ordered Causation’, *The Review of Metaphysics* 77, no. 2 (2023): 247-273, <http://doi.org/10.1353/rvm.2023.a915461>.

⁶²Schaffer’s view of grounding has it that the relata of grounding are entities (see Schaffer, ‘On What Grounds What’ and J. Schaffer, ‘The Internal Relatedness of All Things’, *Mind* 119, no. 474 (2010): 341-376, <http://doi.org/10.1093/mind/fzq033>).

⁶³J. Schaffer, ‘Grounding in the image of causation’, *Philosophical Studies* 173, no. 1 (2016): 49-100, 75, <http://doi.org/10.1007/s11098-014-0438-1>; Schaffer, ‘Monism: The priority of the whole’, 36-7.

are similar yet distinct notions.⁶⁴ Yet this parallel might also be deemed controversial, given that many think of grounding as relating facts, although this in turn is taken by some to be the relation of causation. Additionally, since *per accidens* causal series also relate entities, not events, this parallel does not single out *per se* causes.⁶⁵

A surprising parallel regards necessity, where this feature of grounding is often taken as making it the case that it cannot be a type of causation.⁶⁶ Thus Rosen writes: ‘The facts that ground [p] together ensure as a matter of metaphysical necessity that [p] obtains. This is one respect in which the grounding relation differs from causal and other merely nomic forms of determination’.⁶⁷ However, it seems that Aquinas, and the scholastics in general, held that most causes act with some type of necessity.⁶⁸ For instance, Aquinas thinks there are two different types of necessity that irrational things can act with. The first is that things might act with absolute necessity such that the effect will never fail, with Aquinas’s example here being that of the action of heavenly bodies.⁶⁹ But Aquinas thinks most natural entities act with conditional necessity, which holds that, given the existence of the cause as well as certain external conditions obtaining, the effect will be produced of necessity.⁷⁰ As Aquinas says, ‘just as from a necessary cause an effect follows with certitude, so it follows from a complete contingent cause if it be not impeded’.⁷¹ Causes therefore produce their effects with a type of necessity.

The question therefore is whether it is the same type of necessity as in the case of grounding. Arguably, it seems so. For as Bennett notes, many advocates of grounding necessitarianism require that the circumstances be thus and so in order that the necessitation holds.⁷² For instance Leuenberger requires that certain enablers may be needed, or perhaps blockers be absent.⁷³ Yet this is just the same as in the case of conditional necessity above.

⁶⁴Schaffer, ‘Grounding in the image of causation’, 94–96.

⁶⁵One might respond here that *per se* order may be thought to hold properly between natures and not entities, as Scotus claimed (Ward, ‘Duns Scotus on essential order in De Primo Principio and elsewhere’, 67–70). However, since Scotus clearly thought that there could be *per se* order in causal cases, then if one thinks of grounding in essentialist terms (Inman, *Substance and the Fundamentality of the Familiar*, 68–73), we can likely get the parallel back on track.

⁶⁶Whether we should think all grounding relations hold with necessity is something that has been questioned recently by A. Skiles, ‘Against Grounding Necessitarianism’, *Erkenntnis* 80, no. 4 (2015): 717–751, <http://doi.org/10.1007/s10670-014-9669-y> and S. Leuenberger, ‘Grounding and necessity’, *Inquiry* 57, no. 2 (2014): 151–174, <http://doi.org/10.1080/0020174x.2013.855654>.

⁶⁷Rosen, ‘Metaphysical Dependence: Grounding and Reduction’, 118.

⁶⁸W. Ott, *Causation & Laws of Nature in Early Modern Philosophy* (Oxford University Press, 2009), 20–27; Klima, ‘Whatever Happened to Efficient Causes?’, 38.

⁶⁹Thomas Aquinas, *Summa Contra Gentiles*, II, 29.

⁷⁰I have argued that Aquinas holds to a conditional necessity view of most natural causes elsewhere—see B. Page, ‘Thomas Aquinas, “the Greatest Advocate of Dispositional Modality”, Fact or Fiction?’, *Studia Neoscholastica* 14, no. 2 (2017): 167–188, <https://doi.org/10.5840/studneoar20171428>.

for additional discussion see Frost, *Aquinas on Efficient Causation and Causal Powers*, 58–71.

⁷¹Aquinas, *Summa Contra Gentiles*, I, 67. Marmodoro (see A. Marmodoro, ‘Dispositional Modality Vis-à-vis Conditional Necessity’, *Philosophical Investigations* 39, no. 3 (2016): 205–214, <http://doi.org/10.1111/phim.12125> and A. Marmodoro, ‘Aristotelian Powers at Work: Reciprocity without Symmetry in Causation’, in *Causal Powers*) and Hüttemann (A. Hüttemann, ‘A Disposition-Based Process-Theory of Causation’, in *Metaphysics and Science*, eds. S. Mumford, & M. Tugby [Oxford: Oxford University Press, 2013],

122) are contemporary advocates of conditional necessity, and argue that causal powers act with it.

⁷²See Bennett, *Making Things Up*, 52–54, 48–50. Those who don’t speak of these circumstances explicitly still implicitly include them, according to Bennett (*Making Things Up*, 53–54), and so all ultimately think there are some conditions in some form or another required for grounding (what she calls building).

⁷³Leuenberger, ‘Grounding and necessity’.

grounding seems to be able to allow for each. That is, the notion of principle and instrumental causality seems to make sense within grounding chains, where the principle cause will be the ultimate foundation for that which is grounded, and the instrumental causes are those which are grounded. Similarly, the interpretation whereby all that is meant is that causes are more universal will be upheld in grounding chains, since it just is the case that that which grounds has a universal reach to all that is grounded. Further, within the grounding literature there is a distinction made between flat and dimensioned theories of grounding,⁸² where flat theories take grounding to relate only entities belonging to a single ontological category and dimensioned theories claim that grounding relates different ontological categories. As such, if one thinks *per se* causal chains do need the ability to relate to that with different natures, we can see that some grounding theories are able to accommodate this.

The second difference was that within *per se* causal chains, all the causes in the series were simultaneous with the effect. Grounding relations, too, are also standardly simultaneous, since there is typically no temporal duration between the grounded and the grounder. This feature of grounding is also often taken as a reason for thinking that grounding and causation are distinct notions, since causation is usually taken to be diachronic whilst grounding is synchronic.⁸³ However, once we add *per se* causal series as a species of causation, this potential disanalogy between grounding and causation disappears.

The final and the key feature of *per se* causal series is that the members in the series are not independent but continually dependent upon their previous members. This relates somewhat to transitivity and so let me briefly comment on this first. As we saw above, *per accidens* causal series are transitive in some sense, although they are not transitive in another. For as Kerr put it, the transitivity of *per se* causes passes from a single cause to multiple effects, while the transitivity of *per accidens* causes passes merely to one effect.

Nevertheless, since many people think causation is transitive more generally,⁸⁴ one might not think this relates much to my claim that *per se* causes look very similar to grounding. What then makes them more like grounding chains is the following. Schaffer writes, ‘a grounded entity inherits its reality from its grounds’, whilst caused entities, ‘do not inherit their reality from their causes. Indeed, a caused entity may also be fundamental, and thus ontologically subsistent in its own right’.⁸⁵ This seems to me to parallel *per se* and *per accidens* causal series respectively. For later causes in a *per se* series inherit their *esse*,⁸⁶ which we might loosely translate as reality, or causal power from prior members, whereas in a *per accidens* series the later causes are ontologically subsistent in their own right.

This parallel can be made even more apparent through looking at a debate within the grounding literature, namely as to whether grounding needs to be well founded, that is whether ‘any grounded fact must ultimately be grounded in facts which themselves are ungrounded’.⁸⁷ As Schaffer tells us,

⁸²Clark & D. Liggins, ‘Recent Work on Grounding’, 818-819.

⁸³G. Rosen, ‘Metaphysical Dependence: Grounding and Reduction’, in *Modality: Metaphysics, Logic, and Epistemology*, ed. B. Hale & A. Hoffman (New York: Oxford University Press, 2010); Wilson, ‘Metaphysical Causation’, 729-730; Bernstein, ‘Grounding Is Not Causation’, 24.

⁸⁴For some discussion see N. Hall, ‘Causation and the Price of Transitivity’, *The Journal of Philosophy* 97, no. 4 (2000): 198-222, <http://doi.org/10.2307/2678390>.

⁸⁵Schaffer, ‘Grounding in the image of causation’, 95.

⁸⁶Aquinas speaks this way of *esse* in *De Ente et Essentia*—see Kerr, *Aquinas’s Way to God*, for explication. In *Disputationes Metaphysicae* 17.2.2, Suarez defines *per se* causes in terms of *esse*, writing that it is ‘a cause on which the effect directly depends with respect to that proper *esse* that it has insofar as it is an effect’.

⁸⁷Raven, ‘Ground’, 327. For those who think grounding is between entities, they can substitute ‘fact’ for ‘entity’.

adopting well-foundedness will cause us to become metaphysical foundationalists and ‘reject limitless chains of dependence (metaphysical infinitism) and circular dependence (metaphysical coherentism). There must be a ground of being. If one thing exists only in virtue of another, then there must be something from which the reality of the derivative entities ultimately derives’.⁸⁸ Thus the argument usually put forward for well-foundedness and metaphysical foundationalism is that grounded entities generate an infinite vicious regress without a foundation.⁸⁹ Bohn identifies the intuition behind this type of argument as being ‘something like this: reality, or being is transferred from the ground to the grounded, so all facts gain their being from their ground, so if there is no bottom ground, there is nowhere from which the transfer of being initially comes, nowhere from which to gain being to begin with’.⁹⁰ Thus, Schaffer argues, ‘a regress counts as vicious if and only if there is an endless chain of dependency with transference of the relevant status. ... It is the “transfer model” that leads to the need for a source. With grounding one is looking at a transference of reality: the grounded entity exists in virtue of its grounds. This is why a source of reality is needed, in order for there to be anything to transfer’.⁹¹

The ears of those aware of the medieval tradition should have pricked up at this way of talking, since it is precisely this type of concern that Aquinas and other medievals had with infinite *per se* causal chains.⁹² Thus, Aquinas writes: ‘If that by which it is put in motion be itself put in motion, then this also must need to be put in motion by another, and that by another again. But this cannot go on to infinity, because then there would be no first mover, and, consequently, no other mover; seeing that subsequent movers move only inasmuch as they are put in motion by the first mover; as the staff moves only because it is put in motion by the hand. Therefore it is necessary to arrive at a first mover, put in motion by no other’.⁹³ The thought here, much like Schaffer’s concerning grounding, is that since we have a transference of reality there must be a source from which it begins, a foundation.⁹⁴ Infinite *per se* causal chains therefore seem to mirror the concerns of infinite grounding chains, both being deemed vicious for the same reasons. Interestingly Schaffer has no

⁸⁸Schaffer, ‘Monism: The priority of the whole’, 37.

⁸⁹K. Bennett, ‘By Our Bootstraps’, *Philosophical Perspectives* 25, no. 1 (2011): 27-41, 30-31, <https://doi.org/10.1111/j.1520-8583.2011.00207.x>; K. Fine, ‘Some Puzzles of Ground’, *Notre Dame Journal of Formal Logic* 51, no. 1 (2010): 97-118, 107, <http://doi.org/10.1215/00294527-2010-007>; Schaffer, ‘Grounding in the image of causation’, 95-6. Lowe writes, ‘all real existence must be “grounded” or “well-founded”’. Such an “axiom of foundation” is quite probably beyond conclusive proof and yet I find the vertiginous implications of its denial barely comprehensible’. E. J. Lowe, *The Possibility of Metaphysics: Substance, Identity, and Time* (Oxford: Clarendon Press, 1998), 158.

⁹⁰E. D. Bohn, ‘Infinitely Descending Ground’, in *Reality and its Structure*, eds. R. Bliss, & G. Priest (New York: Oxford University Press, 2018), 169.

⁹¹Schaffer, ‘Grounding in the image of causation’, 95-6.

⁹²Bohn does recognise a similarity with Aquinas here (see Bohn, ‘Infinitely Descending Ground’, 269, n4), but Cameron has Aquinas wrong, and so thinks the question Aquinas asks is something different from the question concerning infinite grounding chains (R. P. Cameron, ‘Turtles All The Way Down: Regress, Priority and Fundamentality’, *The Philosophical Quarterly* 58, no. 230 (2008): 1-14, 8-9, <https://doi.org/10.1111/j.1467-9213.2007.509.x>).

⁹³Aquinas, *Summa Theologiae* I, q.2, a.3, co.

⁹⁴For more on transference, infinite regresses, and why they are deemed vicious, see A. S. Maurin, ‘Infinite regress arguments’, in *Johanssonian Investigations*, eds. C. Svennerlind, J. Almäng, & R. Ingthorsson (Frankfurt: Ontos Verlag, 2013).

Note too that there have been some contemporary cosmological arguments which have also been based on grounding, and one might just see them as a revival of some of what Aquinas, and others, claimed long ago (D. Deng, ‘A new cosmological argument from grounding’, *Analysis* 80, no. 3 (2020): 418-426, <http://doi.org/10.1093/analys/anz071>; T. Oberle, ‘Grounding, infinite regress, and the thomistic cosmological argument’, *International Journal for Philosophy of Religion* 92, no. 3 (2022): 147-166, <http://doi.org/10.1007/s11153-022-09840-3>).

Potential differences

One difference between grounding and *per se* causes concerns the examples each employs. For instance, Schaffer takes the ancestor example, a father begetting a son, which has been discussed above in relation to *per se* chains, as an example of a grounding chain, whereas as we have seen, most medievals would take this as illustrating a *per accidens* chain. Thus, Schaffer writes, ‘something cannot be real merely by having a limitless sequence of ancestors, each claiming reality from its parents. There must actually be a source of reality somewhere’.¹⁰⁵ It is interesting that Schaffer uses this as an example of grounding since he immediately contrasts it with caused entities, where a ‘caused entity qua caused entity still has intrinsic reality unto itself. Caused entities do not inherit their reality from their causes. Indeed, a caused entity may also be fundamental, and thus ontologically subsistent in its own right’.¹⁰⁶ Yet this is pretty much what Scotus thought made it a *per accidens* series, namely that the father and son had an intrinsic reality in their own right once they were begotten. Perhaps we can say that Schaffer is using the term ‘ancestor’ in a purely logical rather than biological sense, with Scotus thinking of the example in terms of the latter.¹⁰⁷ If this is right then we may not need to think there is a difference here.

A second potential disanalogy is that some grounding theorists claim that ‘derivative/[grounded] entities are an “ontological free lunch”, in the sense that they are genuinely new and distinct entities but they cost nothing ... beyond the cost incurred for positing their fundamental grounds’.¹⁰⁸ Although this has been questioned,¹⁰⁹ if correct it seems it might result in a problem for thinking grounding is a type of causation. The reason for this is that causation is usually thought to result in an addition of being.¹¹⁰ Yet in terms of *per se* causal chains, perhaps we can say that the ontological free lunch is the causal power/efficacy, which is wholly derived from every previous member, and ultimately is found in the first member of the chain. Maybe, then, we can say that the instrumental causes in the *per se* chain are a *type* of free lunch from the principle cause.¹¹¹

Whilst we saw above that grounding and *per se* causal chains employed the same type of necessity, we might still think there is a difference. To see this, note that although in grounding there is a one-way dependence, there is a two-way necessity, such that if you have Socrates then necessarily you get {Socrates}, yet if you have {Socrates} you will get Socrates necessarily. This may seem to contrast with *per se* causes. There are two ways we might question this. First, we might be able to question the claim that all grounding relations are two-way necessary. For instance, suppose you are a grounding materialist but think that mental states are multiply realisable, then this might lead you to think the necessity is only one way.¹¹²

¹⁰⁵Schaffer, ‘Grounding in the image of causation’, 95.

¹⁰⁶Schaffer, ‘Grounding in the image of causation’, 95.

¹⁰⁷In personal correspondence, Schaffer has told me that this example is inspired by Leibniz’s example of being royal-blooded. The point here is that if one is royal-blooded then an ancestor must have actually been royal, rather than the thought that there couldn’t be an infinite chain of royals.

¹⁰⁸Schaffer, ‘What not to Multiply Without Necessity’, 647-48.

¹⁰⁹L. deRosset, ‘No Free Lunch’, in *Varieties of Dependence*, eds. M. Hoeltje, B. Schnieder, & A. Steinberg (Munich: Philosophia Verlag, 2013).

¹¹⁰For instance, see Schaffer’s comments in the previous paragraph.

¹¹¹For explication of this terminology see Feser, *Scholastic Metaphysics*, 149.

¹¹²Schaffer seems to have a view like this, regarding grounding and multiple realisation, although he doesn’t comment on the two-way necessity. J. Schaffer, ‘Ground Functionalism’, *Oxford Studies in Philosophy of Mind* 1 (2021): 171-207, <http://doi.org/10.1093/oso/9780198845850.003.0007>.

The other option would be to say that in fact there is a two-way necessity in the case of *per se* causes. To make this the case, first remember that *per se* causes act with a conditional necessity, a type of metaphysical necessity. If we have a very fine-grained view of effects, we can say that a certain effect is *only* producible from certain types of causes, such that there is a two-way necessity in this case. That is, given the effect, it will necessarily be the case that only causes of a certain type could have brought it about. If you had different types of causes, you would just have a different effect. This will have the strange consequence that effects which look the same as others but have different types of causes are in fact different effects and merely closely resemble those other effects. Perhaps this view is made less strange in Aquinas's position, since he holds that 'the power of every agent that acts of natural necessity is confined to one effect'.¹¹³ Given this, we will require many different types of powers to bring about the diverse effects we see in nature, and it won't be the case that multiple types of powers can bring about the same effect. This position seems rather implausible to me, but perhaps this is because the notion of effect I typically employ just isn't fine-grained enough.

However, this view may also bring to light another potential disanalogy between *per se* causes and grounding. For on grounding chains it seems that {Socrates} is necessarily grounded in Socrates, and that nothing else is able to fulfil this role—for instance, Plato won't ground {Socrates}. It therefore seems that there is a necessity based on a specific *token* previous member in this case. However, in *per se* causes, even though the later causes of the chain depend on the previous ones for their power/efficacy necessarily, it could have been the case that different token prior causes supply this power/efficacy than the tokens in this chain. Thus, it appears that in this case we have a necessity based on a certain *type* of previous member, rather than a token previous member. However, we can block this concern through employing the multiply realisable mental states example, since there it is the case that there are grounding examples where the necessity is based merely on a certain *type* of previous member. As such there might not be a strong difference here either.

Another potential difference is due to Wilson's claim that some grounding chains are diachronic, which he employs in order to strengthen the parallel between grounding and causation. One such example he gives is 'my being human as opposed to being swampman may be grounded in my past causal history, and my present ability to refer to Montana may be grounded in my past causal interaction with Montana'.¹¹⁴ However, since I've claimed that *per se* chains are simultaneous there appears to be a problem with my parallel here. Nevertheless, Wilson's thought is controversial, and including dependencies such as these seems to add to the grounding sceptics' worries that grounding is too coarse-grained.¹¹⁵ As such I suspect some would take Wilson's examples to be of a different ontological type. Nevertheless, supposing one followed Wilson, it might be possible to give an example of a non-simultaneous *per se* causal series to show that simultaneity is not essential to the concept, even if it is typical. Feser gives such an example when he writes:

Suppose a 'time gate' of the sort described in Robert Heinlein's story 'By His Bootstraps' were possible. Suppose further that here in 2010 you take a stick and put it halfway through

¹¹³Aquinas, *Summa Contra Gentiles* II, 23.

¹¹⁴Wilson, 'Metaphysical Causation', 730.

¹¹⁵J. M. Wilson, 'No Work for a Theory of Grounding', *Inquiry* 57, no. 5 (2014): 535-579, <http://doi.org/10.1080/0020174x.2014.907542>; J. Koslicki, 'The Coarse-Grainedness of Grounding', *Oxford Studies in Metaphysics* 9 (2015): 306-344, <https://doi.org/10.1093/acprof:oso/9780198729242.003.0011>.

the time gate, while the other half comes out in 3010 and pushes a stone. The motion of the stone and the motion of the hand are not simultaneous – they are separated by 1000 years – but we still have a causal series ordered *per se* insofar as the former motion depends essentially on the latter motion.¹¹⁶

Thus, it seems that if time-travel is truly possible then we can in principle have diachronic *per se* causes.

A penultimate dis-analogy between grounding and *per se* causal series is that there is a sense in which it is possible to have intervention and prevention in a *per se* causal series, and yet this doesn't seem possible on grounding relations. Perhaps the reply here is that there actually is in fact no sense in which intervention and prevention are possible in *per se* series, if all the conditions for the effect are there. As we have seen, conditions are also required for grounding chains, and so there seems to be no difference here either. Yet if one was unsatisfied with this response, one could instead claim that interventions and preventions can be thought about somewhat in grounding cases, it just requires the addition of impossible interventions, with Wilson spelling out how such a theory might go.¹¹⁷ The thought would then be that in grounding cases we do have something that looks like intervention and prevention, even if ultimately such interventions and preventions are impossible.

And lastly, a final disanalogy comes from thinking that there can be grounding relations where the grounding base no longer exists. For instance, the time asymmetry of the world (entropy increase) is grounded in the Big Bang which is no longer present, at least on some theories of time, *e.g.*, presentism.¹¹⁸ Or to use Schaffer's Leibniz example, my being royal-blooded is grounded in my ancestors being royal-blooded, but my ancestor need no longer exist. By contrast in *per se* cases, this is impossible. The posterior causes only have their *esse*/power in so far as the previous members continue to exist. I cannot see any way of overcoming this type of disanalogy.

IV. WHAT SHOULD WE MAKE OF ALL THIS?

Given all this, what should we think about the relation between grounding and Aquinas's understanding of *per se* causal chains? Firstly, we might be unsurprised that Aquinas's notion of causation gives us something at least like grounding, since commentators think his understanding of causation should be thought of in terms of a type of 'ontological' or 'existential dependence',¹¹⁹ which is often what grounding is thought to explain. This might lead us to think then that causation and grounding are not as far apart as is often thought, so long as one thinks of causation more along the medieval lines, and that grounding may well be understood as metaphysical causation.¹²⁰ At the very least, it seems if one sympathetic to

¹¹⁶E. Feser, 'Edwards on infinite causal series' (2010): <http://edwardfeser.blogspot.co.uk/2010/08/edwards-on-infinite-causal-series.html> (accessed 30 October 2022).

¹¹⁷A. Wilson, 'Grounding Entails Counterpossible Non-Triviality', *Philosophy and Phenomenological Research* 96, no. 3 (2018): 716-728, <https://doi.org/10.1111/phpr.12305>; Wilson, 'Metaphysical Causation', 745-747.

¹¹⁸Thanks to David Glick for this example.

¹¹⁹Cohoe speaks of 'ontological dependence' (Cohoe, 'There Must Be A First', 839, n.4), whereas Frost speaks of 'existential dependence' (Frost, *Aquinas on Efficient Causation and Causal Powers*, 12).

¹²⁰Wilson, 'Metaphysical Causation'.

grounding chains, then there should be less adversity in adopting *per se* causal chains in one's ontology.

Secondly, we might think the identity between *per se* and grounding can be strengthened even further when considering that *per se* causal chains can be had by other Aristotelian causes, not just efficient causes, with these being the primary topic of this essay.¹²¹ The material cause, formal cause, and final cause all come in *per se* forms, and much the same can be said for grounding claims, with this most obviously being the case in debates around material constitution and essences and their properties.¹²²

Nevertheless, we've also seen that despite the similarities between *per se* causal series and grounding there are differences, too. If we want to keep the two as similar as possible, or perhaps even argue that they are trying to explain the same thing, perhaps grounding theorists need to take a leaf out of the book of Scotus¹²³ and provide a very general notion of grounding, so just like Scotus's *per se*, it can be applicable to causation more generally and its various stripes (efficient, material, formal, final), as well as also being applicable to non-causal explanations, too. Maybe this is what grounding theorists themselves have been searching for, and perhaps explains why many have wondered whether and how grounding and causation are linked. Maybe there should be a more general notion of grounding, or ontological dependence, or 'directed determination',¹²⁴ that all these other notions of grounding and causation stand in, with this being the genus concept, and there being many species below it. If this is right, then given that the medievals had a very fine-grained understanding of what we today call grounding,¹²⁵ it may be that contemporary theorists should mine the work of Aquinas, Scotus, and other medievals for further inspiration on this topic.¹²⁶

Yet as well as there being lessons for those working in contemporary metaphysics regarding the value of studying medieval thought, so too there are lessons for those working on these historical ideas as to how they can be translated or explained in terms of contemporary thought, and also for those Thomists who wish to make his work relevant for a contemporary audience. For instance, I know of several people who find it difficult to understand Aquinas's notion of *per se* causal chains and yet seem more comfortable when the thought is put in terms of a type

¹²¹See Scotus, *De Primo Principio*, chs.1-2, in T. M. Ward, *Treatise on the First Principle* (Indiana: Hackett Publishing Company, 2024); Ward, 'Duns Scotus on essential order in De Primo Principio and elsewhere' who is explicit about this. Kerr mentions something similar for Aquinas's understanding, too (Kerr, 'Essentially Ordered Series Considered Once Again'). A referee also helpfully suggests that when reading Aquinas's work, we can see areas where *per se* orders of dependence are said to occur which are not to do with efficient causation, such as what he says about the soul, and its powers and operations (e.g., *Summa Theologiae* I, q.77), where these too could be understood in terms of grounding.

¹²²We might think we can see some of these in Inman, *Substance and the Fundamentality of the Familiar*. I don't mean to suggest there cannot be grounding claims to do with finality or teleology, but since teleology often has a bad rap in contemporary philosophy, there has been little said about it in reference to grounding. However, for some signs of revival of teleology in some areas of philosophy see B. Page, 'Power-ing up Neo-Aristotelian Natural Goodness', *Philosophical Studies* 178 (2021): 3755-3775, <https://doi.org/10.1007/s11098-021-01624-1>, and Page, 'The Dispositionalist Deity'.

¹²³Scotus, *De Primo Principio*, chs.1-2, in Ward, *Treatise on the First Principle*, and Ward, 'Duns Scotus on essential order in De Primo Principio and elsewhere'

¹²⁴Schaffer, 'Grounding in the image of causation', 96.

¹²⁵This is something which has started to be explored already, such as in the 2016 conference in Geneva on 'Grounding in Ancient and Medieval Philosophy'.

¹²⁶This suggestion might surprise some, given the derision sometimes levelled at medieval and scholastic philosophy. See J. Ladyman & D. Ross, *Everything Must Go* (New York: Oxford University Press, 2008, chapter 1.

of grounding. It might also be that one can more easily understand why Aquinas doesn't allow for infinite *per se* causal chains in virtue of the arguments given for the well-foundedness of grounding, with it also being the case that there could be further arguments Thomas could employ from this literature. Thomists might also want to consider whether there are other areas of Aquinas's thought which rely on *per se* causal chains, such as creaturely action,¹²⁷ which are also more amenable to contemporary ears if they use the notion of grounding instead. It might also be that thinking about God's activity in terms of grounding allows for a way of seeing why Thomists don't think that God's primary causation still leaves room for creaturely secondary causes, especially given that contemporary advocates of grounding think it leaves room for modern notions of causation.¹²⁸ There is no doubt lots else that could be explored here, by those working on medieval and/or contemporary ideas to do with *per se* causation and grounding, with the time being ripe for further investigation.

CONFLICT OF INTEREST STATEMENT

There are no conflicts of interest.

DATA AVAILABILITY STATEMENT

Research data are not shared.

¹²⁷A. J. Freddoso, 'God's General Concurrence with Secondary Causes: Why Conservation is not Enough', *Philosophical Perspectives* 5 (1991): 553-585, 563-566, <http://doi.org/10.2307/2214109>.

¹²⁸For something along these lines, see I. Silva, 'Causal and non-causal explanations in theology: the case of Aquinas's primary–secondary causation distinction', *Religious Studies* 61 (2025): S267-S279.