

CHAPTER 4

*A Guide to Ground in Kant's Lectures on
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The Principle of Sufficient Reason (PSR) says that everything has a reason that fully explains it. Leibniz expresses the PSR in Latin and French, respectively, as the principle that everything has a *ratio* or *raison*. When German philosophers of the eighteenth century, heavily influenced by the Leibnizian writings available to them, formulated similar ideas in their native tongue, they translated *ratio* as *Grund* and expressed the PSR accordingly as: Everything has a *ground* that fully explains it. This Principle of Sufficient Ground (*Satz des zureichenden Grundes*) or PSG is, so to speak, the Leibnizian PSR translated into German. The PSG – how to correctly formulate it, whether it holds without restriction – became one of the major topics of debate within the Leibnizian tradition of late eighteenth-century German philosophy, commonly known as *German rationalism*.

It comes as no surprise then that Kant, steeped as he was in German rationalism and its debates, would extensively discuss the PSG and the notion of ground (*Grund*) in the metaphysics lectures he gave virtually every semester at the University of Königsberg from 1755 until his retirement from teaching in 1796.¹ Nearly every extant transcript of those lectures contains extended discussions of the correct definition of “ground,” critical comments on the views of his near contemporaries (especially those of Wolff, Baumgarten and Crusius) about what grounds are, distinctions among different kinds of ground and considerations about the correct formulation and range of application of the PSG.

While scholars have extensively discussed Kant's treatment of the PSG in the Antinomies chapter of the *Critique of Pure Reason*,² and, more

¹ For an overview of Kant's lecture activity see Karl Ameriks's and Steve Naragon's Introduction to (Kant 1997) and the website maintained by Naragon: <http://users.manchester.edu/FacStaff/SSNaragon/Kant/>.

² E.g., Heimsoeth (1966–71), Grier (2001), Longuenesse (2001), Boehm (2014), Boehm (2016).

recently, his relation to German rationalist debates about it,³ relatively little has been said about the exact notion of ground that figures in the PSG. My aim in this chapter is to explain Kant's discussion of ground in the lectures and to relate it, where appropriate, to his published discussions of ground.

I begin in Section I by discussing Wolff and Baumgarten's definition of *<ground>*⁴ ("that from which it can be understood why something is"), Kant's charge that this definition is circular and his own replacement explication of this concept (that which when posited, something distinct is posited). I argue that this version cannot serve, and Kant never intended it to serve, as a definition of ground, but is merely an explication meant to communicate the basic content of the concept to his audience. In Section II, I consider various structural principles Kant accepts for the grounding relation: It is irreflexive, transitive, asymmetric and determinate in one direction only (i.e., grounds ground determinate consequences, but not vice versa). In Section III, I explain various distinctions within the very broad genus of grounding relations. The most important such distinction is between epistemic grounding (α is a reason on the basis of which one can know β) and explanatory grounding (α explains β). The focus of the rest of the chapter will be on explanatory grounding. Another important distinction is between logical grounding (in which the grounding of β by α is fully explained by the Principle of Non-Contradiction, or PNC) and real grounding (in which the grounding relation cannot be so explained). The logical grounding relation is a topic for logic, so in his metaphysics lectures Kant devotes more attention to the real grounding relation, and I will follow suit. Section IV concerns the species of real grounding to which Kant devotes the most attention, namely, causation. I explain the structure of the causal relation, why it is a real grounding relation and the relationship between causation and several associated concepts: capacity (*Vermögen*), force (*Kraft*), substance, accident and inherence. One might think that causation is identical to real grounding, and there are passages in the metaphysics lectures that appear to support this; however, I argue in Section V that, in both the pre-Critical and the Critical period, Kant accepts non-causal real grounding relations, paradigmatically in the cases of God's real grounding of real possibilities (pre-Critical) and the grounding of the possibility of experience in synthetic a priori principles (Critical).

³ E.g., Hogan (2010), Fugate (2014a).

⁴ Italicized expressions within angle brackets refer to the concepts that would normally be expressed by such an expression; e.g., *<ground>* refers to the concept expressed by "ground."

I survey the kinds of real non-causal grounding relations to which Kant is committed and explicate their common structure. For reasons of space, I do not explicitly discuss Kant's attitude towards the PSG, but my hope is that my explication of the notion of ground that figures in such a principle will be of use to scholars engaged in that project. Likewise, rather than discussing separately the views of Kant's predecessors about ground, I integrate references to the German rationalist background within the discussion of Kant's theory of ground.

A relation that goes by the name of "grounding" has recently become *en vogue* in analytic metaphysics. Metaphysicians who talk about grounding today typically have in mind a non-causal, non-logical relation of specifically metaphysical explanation.⁵ For Kant and the German rationalists, however, "ground" is a much more general notion, more akin to explanation in general (or the worldly structure that "answers to" or "backs" explanations).⁶ Kant and his contemporaries consider causes a species of ground, while contemporary metaphysicians typically isolate the topic of grounding by distinguishing it from causation.⁷ If contemporary grounding corresponds to anything in eighteenth-century rationalism, it corresponds to a *species* of grounding. The element of Kant's theory to which it corresponds most closely, I will argue, is the relation of non-causal real grounding. Along the way, I attempt to substantiate that connection.

I. The Definition of Ground

Kant standardly begins his discussions of grounding by noting that *<ground>* is a relational predicate: When we say that something is a ground we are saying that it stands in a certain relation to something else, namely, a *consequence* (*Folge*).⁸ One and the same thing can be both a ground and a consequence. For instance, the falling of one domino is

⁵ For the recent revival of grounding in contemporary metaphysics see Fine (2001), Schaffer (2009), Rosen (2010) and Audi (2012). Wilson (2014) questions whether grounding, as opposed to various more specific determination relations, has earned its keep in metaphysics. An overview of the subsequent debates is provided by Raven (2015) and Bliss and Trogon (2014).

⁶ Cf. Raven (2015) on the distinction between what he calls "unionists" (who identify grounding with metaphysical explanation (e.g. Rosen 2010) and "separatists" (who think of grounding as distinct from but "backing" metaphysical explanation (e.g. Audi 2012)).

⁷ E.g., Raven (2015, p. 325).

⁸ E.g. *MVol*, 28:401; *MvS*, 28: 486; *ML2*, 28:548; *MDoh*, 28:624. I take this to be an implicit criticism of Baumgarten, who classes ground and consequence among the "universal internal predicates of a being" (predicates that apply to all beings as such) rather than the "relative predicates of a being" (predicates that apply to beings in virtue of their relations to other beings), where, from Kant's point of view, they would seem to belong.

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a consequence of the previous domino's falling, and is the ground of the next domino falling; one proposition can be the ground of another, as well as a consequence of yet another proposition, and so on. Thus, it is more perspicuous to talk about a grounding *relation* (α grounds β) and to define ground and consequence in terms of this relation. For any α , α is a ground just in case there is a β that α grounds; for any α , α is a consequence just in case there is a γ that grounds α . In what follows $\alpha \rightarrow_g \beta$ will mean that α grounds β .^{9,10}

However, this only tells us something about the logic of the relational predicates *<ground>* and *<consequence>*; it tells us neither what grounds are, nor what the relation of grounding is. Many philosophers in the late rationalist tradition attempted to define ground, none more famously than Christian Wolff: "The ground is that through which one can understand why something is."¹¹ Baumgarten gives a similar definition: "A GROUND (*ratio*) is that from which it is knowable [*cognoscibile*] why [*cur*] something is."¹² Commenting on Baumgarten's definition in the Herder metaphysics lectures, Kant claims that this definition is circular: "The author's definition is unacceptable because of the word 'why' [*cur*], which just means 'from what ground.' It is thus a concealed circle" (MH, 28:11). Kant makes the same point repeatedly in later lectures.¹³

It is worth unpacking his reasoning here. The notion of ground in German rationalism is, very broadly, an explanatory notion. A ground explains what it grounds; to explain something is to know its ground. But grounding is not one explanatory relation among others; rather, it is the most general explanatory notion of all. Any successful explanation must cite a ground of the *explanandum*.¹⁴ Consequently, there is no more general notion to which "why" in the Wolff-Baumgarten definition can refer; it must refer to the ground of the relevant item. Consequently, the Wolff-

⁹ One might immediately want to know what the *relata* of the grounding relation are. However, the *relata* of grounding depend on the species of grounding relation in question (e.g. causation relates substances to accidents, while logical grounding relates concepts to concepts), so until we distinguish the different species of grounding relation we will have to prescind from a precise specification of the *relata*. Consequently, I use Greek letters as 'meta-variables' that will have to be filled in later with variables of the appropriate syntactic category (e.g. *objectual*-variables, *propositional*-variables).

¹⁰ In some contemporary work, grounding is represented not as a relation but as an operator on sets of sentences, e.g. Fine (2012). To facilitate comparison with the eighteenth century, though, I will focus on contemporary theories that express grounding through a relation.

¹¹ Wolff (1719, §29). ¹² M, 1757, §14.

¹³ E.g. MVol, 28:401; MvS, 28:486; MDoh, 28:624. Even earlier, it is in Kant's *New Elucidation*, AA, 1:393.

¹⁴ Contrast this with contemporary theories, in which grounding explanations (or explanation-backing relations; see note 5) are one species of explanation alongside others (e.g. causal explanations).



Baumgarten definition of ground is circular; the very notion of ground implicitly figures in the *definiens*.¹⁵

A few lines later, Kant offers a replacement “definition” of ground: “A ground is therefore something which, if it is posited (*posito*), something else is posited (*ponitur*)” (MH, 28:II).¹⁶ This principle is repeated in many later lectures, including those from the Critical period.¹⁷ Kant’s basic idea is this: $(\alpha \rightarrow_g \beta)$ if and only if, if α is “posited” then β is “posited.”

But what does “posited” mean here? In BDG, a text published around the time the *Herder* lectures were delivered,¹⁸ Kant explains this notion as follows:

The concept of positing [*Position*] or setting [*Setzung*] is perfectly simple: it is identical with the concept of being in general. Now something can be thought as posited merely relatively, or to express the matter better, it can be thought merely as the relation (*respectus logicus*) of something as a characteristic mark of a thing. In this case, being, that is to say, the positing of this relation, is nothing other than the copula in a judgment. If what is considered is not merely the relation but the thing posited in and for itself, then this being is the same as existence. (BDG, 2:73)

Relative positing is judging: that is, it is the positing of a logical relation between two predicates; the predicate falls under the concept. Absolute positing is the positing of an object for a given concept: that is, it is judging that the concept is instantiated.¹⁹

Applying this back to Kant’s claim about grounding, we can distinguish two kinds of grounding relation with two kinds of *relata*: propositional grounding (if one proposition is posited, another is posited, its consequence) and objectual grounding (if the existence of one object is posited, the existence of another, its consequence, is posited).²⁰ In each case, however, the question remains of what connection Kant is asserting between these two positings.

¹⁵ Longuenesse (2001, p. 7) considers a response on Wolff’s behalf.

¹⁶ “Ein Grund ist also aliquid, quo posito, ponitur aliud.”

¹⁷ In addition to MH, 28:II, 13, it also appears in: MvS, 28:486; ML2, 28:548; MDoh, 28:624; and MMron, 29:806, 808. For the relation between this definition of *<ground>*, and Kant’s definition at ND, 1:391, see Melamedoff (Manuscript).


¹⁸ On its title page, BDG lists 1763 as its date of publication, but as David Walford and Ralf Meerbote point out in their Introduction to Kant (1992) it actually appeared late in 1762. The *Herder* transcripts are an amalgam of lectures Kant gave during the period 1762–4.

¹⁹ Cf. the discussions of this passage in Abaci (2008) and Stang (2016).

²⁰ In fact, if we include “mixed” cases we can distinguish at least two more kinds: object-proposition grounding ($x \rightarrow_g p$) and proposition-object ground ($p \rightarrow_g x$). What I am calling propositional grounding is, in this period, usually treated as a relation between predicates. To see how predicate grounding can be translated into propositional grounding, see Stang (2016, p. 19).

There are at least four such relations Kant might have in mind:

- i) **Mere conditional.** The most flat-footed reading, in the objectual case, would be: x grounds y just in case if x exists then y exists (propositionally, if p then q). The problem with this is that it entails that any two existing objects ground one another (or that any true proposition grounds any other true proposition). This reading requires no explanatory connection between x and y , and thus is untenable as an account of grounding.²¹
- ii) **Logical entailment.** The relation between the positing of the ground and the positing of the consequence might be a relation of logical entailment. However, we can quickly reject this as an interpretation of Kant's account of grounding, because it is a central part of his theory of ground from at least the mid-1760s (when the *Herder* lectures were given) onwards that there are non-logical "real" grounds that "posit" their consequences without logically entailing them. I discuss the distinction between real and logical grounding in the Section III below.
- iii) **Strict conditional.** If the connection between ground and consequence is not logical entailment, perhaps it is a non-logical necessary connection: Grounds necessitate their consequences. Precisely how we formulate this will depend on the **relata** of the grounding relation:
 - iii.a) **Propositional:** $p \rightarrow_g q = \square (p \rightarrow q)$.
 - iii.b) **Objectual:** $x \rightarrow_g y = \square (x \text{ exists} \rightarrow y \text{ exists})$.^{22,23}

 However, neither proposal is tenable. Where q is necessarily true, the right half of (iii.a) is satisfied for any p . Thus, (iii.a) would entail that every

²¹ It has the further flaw of entailing that grounding is reflexive and not anti-symmetric, which, as I will argue in section II, Kant denies.

²² (iii.a) and (iii.b) are formulated as biconditionals. Does Kant accept the left-to-right side of the biconditional, the claim that grounds necessitate their consequences? This is hard to answer in general, for he accepts multiple kinds of grounding relations (see section III), but there is (defeasible) evidence that he does: "The ground is that from which something follows entirely necessarily" (ML2, 28:548).

²³ How to express properly the right-hand side of (iii.b) depends on the appropriate logical form for existential judgments. Given Kant's doctrine that existence is absolute, not relative positing, the appropriate form is arguably not that of a predicate applied to an object (e.g. "x exists"). However, if we formulate the existential judgments on the right-hand side in a way more appropriate to Kant's theory of existence (e.g. as $\exists xFx$) this would make (iii.b) unsuitable for expressing grounding relations between objects (for the variables bound by the existential quantifier must be different from the variables on the left-hand side). For the sake of brevity, I will ignore this complication. For more on the logical form of Kantian existential judgments see Abaci (2008), Rosenkoetter (2010) and Stang (2016).

necessarily true proposition is grounded (i.e. explained) by every other proposition, including contingent ones. Likewise, where y is a necessary being, y satisfies the right-hand side of (iii.b) for any x . Thus, (iii.b) would entail that every object grounds the existence of God. But either conclusion would be rejected by Kant or any German rationalist, since God cannot have a ground distinct from himself.²⁴

iv) **Efficient causation.** One might try to read the connection between ground and consequence as a causal notion, but this is unacceptable as well. First of all, Kant defines causation as a species of grounding;²⁵ consequently, causation cannot be used in the definition of grounding itself, on pain of circularity.²⁶ Secondly, as we will see, Kant at every period in his career wants to allow for the possibility of *non-causal* grounding; causation is a species of grounding, but not the only one. Building a causal requirement into the very definition of ground would defeat that.

If I am right that grounding cannot be non-circularly analyzed in more basic terms, then Kant's "definition" of ground is, by his own lights, not a definition. A definition, Kant insists in his lectures on logic, not only must be non-circular but must also analyze the concept into marks that are more clearly understood than the concept itself.²⁷ The failure of the four candidate analyses above suggests that this will not be possible in the case of *<grounding>* or *<positing>* (assuming that the material conditional, logical entailment, the strict conditional and causation are more clearly understood than grounding).²⁸ Kant himself at one point admits this about his "definition" of grounding: "The ground is that through which something distinct is posited [*gesetzt wird*]; this is not yet the definition of ground, but rather only as much as I can find through the first analysis of my concept" (MVol, 28:401). His "definition" of grounding should be compared with what he says about existence in BDG around the same time:

Once it is appreciated that the whole of our cognition ultimately resolves itself into unanalyzable concepts, it will also be understood that there will be

²⁴ I shall argue in section II that Kant rejects self-grounding and thus consistently denies that God has any ground whatsoever.

²⁵ See section IV.

²⁶ Although the dominant view in the lectures is that causation is a species of grounding, there is at least one text where Kant says the opposite (ML2, 28:548).

²⁷ LBlom 24:265; LDoh, 24:759; LWien, 24:924.

²⁸ As we shall see in section IV, Kant himself would not admit that causation is more clearly understood than grounding, for causation is a species of grounding.

some concepts which are almost unanalyzable; in other words, there will be some concepts where the characteristic marks are only to a very small degree clearer and simpler than the thing itself. Such is the case with our definition of existence [as absolute positing–NS]. (BDG, 2:73)

Neither Kant's remarks on existence nor his "definition" of ground are proper definitions of these concepts in terms of more basic and more clearly understood constituents. Each of them "analyzes" the target concept in terms of a concept not significantly clearer than the original (absolute positing, the positing of one thing by another). These "analyses" are more akin to informal explications of these concepts, by which Kant indicates to his audience how he understands the target concept, how he distinguishes his view from others (e.g. existence is not a real predicate, grounding is not in general logical grounding) and how he draws semi-definitional connections between concepts (whatever absolute positing is, the absolute positing of a ground absolutely posits its consequence).

II. Structural Principles of Grounding

In this section I discuss several structural features of grounding. Typically, Kant simply makes the unqualified claim that these structural features hold of grounds and consequences (e.g. that nothing grounds itself). Since he also accepts several different species of grounding relations (the topic of Section III), this opens the possibility that these features hold only of some grounding relations and not of others. However, my guiding hypothesis will be that the *prima facie* meaning of Kant's claims is the correct one: These structural features apply to all grounding relations as such.

(a) *Irreflexive*

In the *Nova Dilucidatio* of 1755, one of Kant's first published works in metaphysics, he argues that nothing can "contain" its own ground (PND, 1:394).²⁹ Kant uses this claim to object to the ontological argument: God's essence or complete concept cannot contain existence because nothing can contain the ground of its own existence.³⁰ In his lectures on metaphysics, Kant repeatedly makes a related but subtly different claim: Nothing

²⁹ Melamedoff (Manuscript) considers whether Kant's view of ground in ND (as well as Wolff's view) might allow some violations of irreflexivity.

³⁰ He also makes a more familiar objection: The ontological argument shows only a connection between God and existence "in ideas" (PND, 1:394–5), not in reality. See Longuenesse (2001) and Melamedoff (Manuscript) for reconstructions of this argument.

grounds itself.³¹ Following contemporary parlance, I will refer to this as the *irreflexivity* of grounding:

Irreflexivity: For all α , $\neg(\alpha \rightarrow_g \alpha)$.³²

Kant sometimes cites the irreflexivity of grounding as the reason why ontological arguments fail,³³ but it is significantly less clear why proponents of ontological arguments are committed to rejecting that principle. Baumgarten and Wolff, for instance, claim that God's existence is grounded in his essence; that is, in his possibility.³⁴ They do not, to my knowledge, claim anything that would violate irreflexivity strictly speaking (e.g. that God \rightarrow_g God, or that God exists \rightarrow_g God exists). I suspect that, contra Kant, denying irreflexivity is not a crucial commitment of the ontological argument, but I do not have the space to argue the point here.³⁵

(b) *Transitive*

Kant also endorses the *transitivity* of grounding:

Transitivity: For all α , β , and γ , if $\alpha \rightarrow_g \beta$ and $\beta \rightarrow_g \gamma$, then $\alpha \rightarrow_g \gamma$.³⁶

Though he does not typically come straight out and say that grounding is a transitive relation, his commitment to the transitivity of grounding becomes clear in his distinction between mediate and immediate grounds.³⁷ A mediate ground α of some thing γ is a ground of a ground of γ . An immediate ground of γ is something that grounds γ but not in virtue of grounding some third thing, that is, an intermediary. That Kant considers mediate grounds of a thing to be grounds of that thing shows that he assumes that grounding is transitive. This is especially clear in *Volckmann*:

³¹ MH, 28:13, 54; MvS, 28:486; MDoh, 28:625; MMron, 29:813. Note that Kant endorses the irreflexivity of grounding even for logical grounding (MDoh, 28:625); so p never grounds p , even though (trivially) p entails p .

³² This principle is granted by most contemporary grounding theorists; see Jenkins (2011) and Correia (2014) for dissenting views.

³³ MvS, 28:486. ³⁴ M, §820; Wolff (1719, §929–30).

³⁵ Elsewhere I meticulously reconstruct the ontological arguments of Descartes, Leibniz and Baumgarten (see Stang 2016). None of those arguments, at least as I reconstruct them, requires the denial of irreflexivity in order to be valid.

³⁶ Baumgarten agrees: see M, §25. Likewise, most contemporary theorists endorse transitivity. Tahko (2013) and Litland (2013) consider counterexamples to transitivity, while Schaffer (2012) marshals a “contrastive” theory of grounding in response to such apparent counterexamples.

³⁷ MVol, 28:409; MvS, 28:490; ML2, 28:551; MDoh, 28:627; MMron, 29:817.

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Ground is divided into the mediate and the immediate. The former is a ground of the ground of a thing (*Sache*), e.g., A is the ground of B, and this is the ground of C, so A is the ground of a ground and is called the mediate ground [of C – NS]. An immediate ground has no intermediate ground (*Zwischengrund*). (MVol, 28:409)

This is a clear endorsement of the transitivity of grounding.

(c) *Asymmetry*

Asymmetry and transitivity entail that grounding is asymmetric:

Asymmetry: for all α and β , if $\alpha \rightarrow_g \beta$ then $\neg(\beta \rightarrow_g \alpha)$.³⁸

One potential source of counterexamples to the asymmetry of grounding is cases of mutual causal interaction between substances. I argue in Section III that this is not a genuine counterexample to asymmetry, because substances ground one another's accidents, not one another.

(d) *Determinacy*

A ground is that which, when posited, something else, namely, its consequence, is also posited. This was Kant's explication of "ground" from Section I. But since every consequence by definition has a ground, the same principle applies to it: If you posit the consequence, a ground is also posited. In order to introduce the necessary asymmetry into the grounding relation, Kant points out that grounds posit a *determinate* consequence, while consequences posit some ground or other *indeterminately*.³⁹ To take Kant's preferred example, a cause posits a specific effect; for example, the falling of domino n causes domino $n+1$ to fall. But if domino $n+1$ falls, all that follows is that ~~some domino or other~~ caused it to fall; it need not be determinately the case that domino n caused it.

Determinacy: if $\alpha \rightarrow_g \beta$ then (i) if α is posited then β is posited, but (ii) if β is posited then some ground γ of β is posited (for some γ , $\gamma \rightarrow_g \beta$).⁴⁰

³⁸ If α grounds β , and β grounds α , then by transitivity, α grounds α , which violates irreflexivity. QED.

³⁹ MVol, 28:401, 408; ML2, 28:548; MDoh, 28:624, 628; MMron, 29:808, 818.

⁴⁰ This issue is obviously related to the PSG, for otherwise why cannot γ be posited without a ground? That Kant takes consequences to indeterminately posit grounds means that he is assuming the PSG for things that are consequences: If γ is a consequence (i.e. is grounded), then necessarily if γ is posited then it is a consequence (i.e. is grounded). In other words, things that are grounded are *necessarily* grounded (though not necessarily by their actual grounds).

The primary reason why Kant accepts the indeterminacy of the relation of consequences to their grounds is causal preemption, when the ordinary cause of an effect is “preempted” by some non-standard cause. For instance, I might preempt the causal role of domino n by pushing over domino $n+1$ myself. Determinacy is meant to capture the more general possibility of “grounding” preemption. Some care is required here, for as we will see below, in some kinds of grounding relation, consequences require determinate grounds; that is, if a certain consequence is present then only a determinate ground could have grounded it. These kinds of grounding will not allow for preemption. The clearest case is God: Since only God can ground the total space of real possibility, if the total space of real possibility is posited, then God is posited. So the determinacy principle holds for these kinds of grounding relation, but an additional clause (iii) holds: the γ that grounds β is α .

(e) *Nexus*

“Nexus” does not, *sensu stricto*, refer to a structural feature of the grounding relation like irreflexivity or transitivity. It is a term that Kant picks up from the German rationalist tradition, which he understands much the way Baumgarten does: “The NEXUS is the predicate by virtue of which something is either ground or consequence.”⁴¹ This is not exactly pellucid, but I take it to mean that “nexus” refers to the relation of standing in some grounding relation in which it is indifferent which *relatum* is the ground and which the consequence. Kant more frequently speaks of items being *in nexu*, by which I take him to mean: α and β are *in nexu* just in case they are related by some chain of ground-consequence relations.^{42,43}

Baumgarten sometimes speaks of different nexuses in the world, distinguished by the nature of the underlying ground-consequence relation; he speaks of the logical nexus, as well as the nexus of efficient causes and consequences, the nexus of final causes and consequences, and others.⁴⁴

⁴¹ M, §14. Kant discusses nexus in: MH, 28:12, 24, 25, 32, 52, 82, 103, 129; ML1 28: 196; MVol, 28:402; MvS, 28: 487; MDoh, 28:627, 648, 657, 665; MK2, 28:719, 800; MMron, 29:806, 810, 816, 826, 845, 846, 851, 867.

⁴² MH, 28:18, 28, 32, 39, 77, 103, 129, 138, 139; ML1, 28:195, 212, 214, 324; MVol, 28:407; MvS, 28:488–9; MDoh, 28:648; MK3, 28:827; MNH, 28:936; MMron, 29:806, 812, 847, 935.

⁴³ In contemporary terms, we might take the nexus of a to be the transitive closure of some grounding relation with respect to a .

⁴⁴ M, §358. Baumgarten’s complete list of nexuses is: the efficient nexus, the nexus of utility, the final nexus, the subjective and formal nexus and the nexus of signification.

Kant sometimes uses the same terminology (in one passage even making all of the distinctions that Baumgarten does).⁴⁵ Once we have distinguished different kinds of grounding relation, we will be able to distinguish different kinds of nexus. For instance, the causal nexus of an item (substance or accident) will be the complete set of substances and accidents to which it is causally related, either as cause (ground) or effect (consequence), no matter how mediately.

III. Distinctions in Ground

“Ground,” as we have seen, is a very broad notion in German rationalism. In this section I discuss various distinctions among kinds of ground that Kant makes in his lectures. In many cases, he is drawing on a set of distinctions that would be familiar to readers of eighteenth-century metaphysics, but sometimes he uses his own distinctive terminology. Where appropriate, I explain the historical provenance of Kant's distinctions.

(a) *Complete vs. Partial Ground*

I have been implicitly restricting attention to grounds that suffice to posit their consequences, but Kant distinguishes between such grounds, which he calls “sufficient” grounds, and “insufficient” grounds.⁴⁶ Kant also draws this distinction in mereological terms: A sufficient ground is a “complete” ground, and an insufficient ground is an “incomplete” ground, a proper part of a complete, i.e. sufficient, ground. A partial ground fails to satisfy Kant's “positing” condition on grounds, for if α is only a partial ground of β , then positing α *by itself* does not suffice for the positing of β , since the other components that make up a complete ground of β might be lacking. This means that partial grounds are not, strictly speaking, grounds, according to Kant's own explication of *<ground>*. I think we should read Kant as defining partial grounding in terms of grounding *simpliciter*, which he identifies with complete grounding.

Definition: α is a complete ground of β if and only if $\alpha \rightarrow_g \beta$.

⁴⁵ MDoh, 28:649–50; for the reified use of “nexus” see MMron, 29:826, 851.

⁴⁶ MvS, 28:490, and MMron, 29:817.

Definition: α is a partial ground of β just in case α is a proper part of some γ such that $\gamma \rightarrow_g \beta$.^{47,48}

Consequently, there is no room in Kant's theory for a ground that is complete but is insufficient to ground its consequence. In other words, if some ground α is insufficient to posit the consequence β , this is because α must be supplemented by some further element which will constitute a complete ground of β .⁴⁹

(b) *Coordinate vs. Subordinate Grounds*

Kant also distinguishes between coordinate and subordinate grounds.⁵⁰ This is not so much a distinction between kinds of grounding relations, but rather a distinction between how grounds are situated within a larger structure of grounding relations. Coordinated grounds of a given thing are grounds of that thing which do not stand in grounding relations to one another; subordinated grounds of a thing are grounds that do stand in such relations. This means that the partial grounds that constitute the complete ground of a given consequence are coordinated grounds.⁵¹ To use a previous example, dominos 1 through n are subordinate grounds of the falling of domino $n+1$; by transitivity, each domino in that series is a ground of ~~domino $n+1$ falling and a ground of the next domino in the series~~. By contrast, the individual parts of domino n are coordinated grounds of the falling of domino $n+1$; they do not ground one another. The coordinate/subordinate and the complete/partial distinctions crosscut one another. The lower third and upper third of domino n are coordinated partial grounds of domino $n+1$

⁴⁷ Kant is following Baumgarten's lead here. In *M*, §21, Baumgarten distinguishes between sufficient grounds, which he identifies with complete grounds, and insufficient grounds, which he identifies with partial grounds.

⁴⁸ The distinction between complete and partial grounds is also present in the contemporary literature: see Rosen (2010) and Fine (2012). However, the typical contemporary view of the relation between partial and complete grounds is set-theoretic rather than mereological: A partial ground is a proper subset of a set of complete grounds.

⁴⁹ This means that probabilistic grounding (e.g. probabilistic causation) is strictly speaking not possible, according to Kant. He does discuss chance and probability (*Wahrscheinlichkeit*) at several points, but he has an epistemic or "subjective" conception of chance on which it is ultimately a matter of our incomplete evidence; there is no "objective" chance in the world, according to Kant. See LBlom, 24:143; LPhil, 24:436; LPöl, 24:554; VDoh, 24:742; LWien, 24:879.

⁵⁰ MH, 28:14, 29; MVol, 28: 402, 410; MvS 28:491; ML2, 28:548; MDoh, 28:628, 648; MMron, 29:817. Cf. A412/B439

⁵¹ MH, 28:14; MvS, 28:491.

falling, and the lower halves of dominos 1 through n are subordinated partial grounds of domino $n+1$ falling.⁵²

(c) *Explanatory vs. Epistemic Grounds*

These first two distinctions were structural distinctions among roles that grounds play in systems of grounding relations. By contrast, the most basic substantive distinction among kinds of ground themselves is between what I will call *explanatory grounds* and *epistemic grounds*.⁵³ Nearly every writer in this period draws a corresponding distinction, but they use different terminology (which is then sometimes taken up by later writers to draw a slightly different distinction), which can be confusing.⁵⁴ The basic distinction is between a ground that explains why something is the case and a ground that gives one reason to believe (or be in some other epistemic state with respect to the proposition) that something is the case. For example, the fire explains why there is smoke, but the presence of the smoke is reason to infer the existence of the fire. To avoid confusion, I will use the term “explanatory ground” to refer to the former, and “epistemic ground” to refer to the latter. But one and the same thing can be both an explanatory and an epistemic ground. The fire explains why there is smoke but one can also infer from the fact that there is a fire that there will be smoke.⁵⁵ So we should think of this instead as a distinction between two kinds of relation: an *explanatory* relation and an *epistemic* relation. As always, talk of grounds (and consequences) will be shorthand for talk of things insofar as they stand in appropriate grounding relations (an

⁵² Kant is also borrowing this distinction from Baumgarten; see M, §28.

⁵³ MH, 28:12, 37, 54; MVol, 28:355, 400; MDoh, 28:647; MK2, 28:724; MMron, 29:806. In some texts (e.g., MK2, 28:724) Kant expresses this as a tripartite distinction between *ratio essendi*, *ratio fiendi* and *ratio cognoscendi* (see section IV for a discussion of the first two), but this constitutes a distinction between what I am calling “explanatory” grounds (*ratio essendi*, *ratio fiendi*) on the one hand, and an epistemic ground (*ratio cognoscendi*) on the other.

⁵⁴ For instance, Crusius distinguishes between “real” and “ideal” grounds, which roughly corresponds to my distinction between explanatory and epistemic grounds; see Crusius (1747, §139); Crusius (1745, §34–5). Kant partially borrows this terminology in his distinction between real and logical grounds, but as he himself notes (MH, 28:12, 37), uses this terminology to draw a ~~totally~~ different distinction. Crusius himself borrowed the “real” and “ideal” distinction from Leibniz and Baumgarten; see Leibniz (1990, §66), and M, §212.

⁵⁵ Kant's distinction between “antecedently determining” and “consequentially determining grounds” in PND, 1:392–3, is unsatisfactory because, ~~contra Kant~~, it does not track the explanatory/epistemic distinction. The fire is the antecedently determining ground and *not* the consequentially determining ground of the smoke, but it can be a ground of knowing that there is smoke.

explanatory ground is something that bears the explanatory grounding relation to something, etc.).

As some readers will have noted, there is a tension between my characterization of the explanatory/epistemic distinction as a distinction between kinds of grounds, and my introductory description of *<ground>* as the most general concept of explanation in German rationalism. It might seem that I have “defined away” epistemic grounding from the outset. But notice that Kant’s own explication of *<ground>* seems not to apply to epistemic grounds at all: “A ground is something which, if it is posited [*posito*], something else is posited [*ponitur*]” (MH, 28:11). Nor does Wolff’s definition of ground: “The ground is that through which one can understand why something is.”⁵⁶ We could stretch Kant’s explication to fit epistemic grounds as follows: When I come to know that *p* on the basis of epistemic ground *g*, the “positing” of my grasp of *g* “posits” my knowledge that *p*. Slightly less artificially, Wolff’s definition could be extended as follows: Epistemic ground *g* explains *why* my belief that *p* is knowledge that *p*. We face an interpretive choice here, I think. Either we can insist that *<ground>* really is a unitary concept, and try to understand it in terms general enough that it can encompass two species, which I have called explanatory and epistemic grounds; or we can give up on the unity of the concept *<ground>* and think of it as a disjunctive concept subsuming two very different relations, namely, the relation between an *explanandum* and its *explanans*, and the relation between knowledge and the evidence on which it based.⁵⁷ I will not make that interpretive choice here. Because this chapter is concerned with grounding in Kant’s lectures on metaphysics, I will focus on the explanatory relation. Before we bid adieu to epistemic grounding, though, I want to note that it is plausible that the structural principles of grounding in general apply to it: It is irreflexive, transitive and asymmetric. What’s more, we can distinguish between complete and partial epistemic grounds (a complete body of evidence and its individual components) and between subordinated and coordinated epistemic grounds (e.g. the premises in an argument are coordinated, while successive steps in a deduction are subordinated). Thus, I take it that these first three distinctions crosscut one another.⁵⁸

⁵⁶ 1719, §29.

⁵⁷ The closest contemporary analogue to the epistemic grounding relation is the relation of “epistemic basing.” See Korcz (2015) for an overview.

⁵⁸ For a different take on what I am calling the epistemic/explanatory distinction, see Melamedoff (Manuscript).

(d) *Real vs. Logical Grounds*

The second main division in Kant's theory of grounds is between real and logical grounds. Whereas many of the previous distinctions are standard within German rationalism, Kant's distinction between real and logical grounds constitutes a significant break with that tradition, which, according to Kant, conflated these two kinds of ground.⁵⁹ While a related distinction is made by Crusius, what Kant does with this distinction, especially in the Critical period, goes significantly beyond Crusius.⁶⁰ Thus, in talking about the logical ground/real ground distinction we can be said to be entering for the first time into the distinctively Kantian theory of grounds.

The distinction between logical and real grounds is present in the *Herder* transcripts, the first set of metaphysics lectures we have:

Every ground is either logical, through which the consequence, which is posited by the law of identity [*per regulam identitatis*] as one [*einerlei*] with the ground, as a predicate; or the ground is real, through which the consequence is not posited by the law of identity [*per regulam identitatis*] and is not one [*einerlei*] with the ground. (MH, 28:11)

This distinction is maintained throughout Kant's writings from this point on, and recurs throughout his lectures on metaphysics.⁶¹

The distinction is ultimately a distinction in the relation (*nexus*) between a ground and its consequence. A logical ground is one that "posits" its consequence by purely logical principles (identity, non-contradiction). I take this to mean that the explanation of why, given the ground, the consequence must be posited, is purely logical.⁶² The paradigmatic example of a logical ground is the relation between a concept and a mark of the concept, e.g. <human> and <fallibility>: That <human> is a logical ground of <fallibility> means that any object, in virtue of falling under <human>, also falls under <fallible>. To apply Kant's own explication, to posit an object under <human> is thereby to posit it under <fallible>.⁶³ This is

⁵⁹ I elsewhere reconstruct what I call the "logicist" conception of ground (according to which all grounds are logical grounds) and Kant's critique of it in (see Stang 2016, 82–91).

⁶⁰ As Kant himself notes: see MH, 28:12, 37. Cf. Hogan (2010).

⁶¹ MH, 28:11–12, 24–5, 32; MVol, 28:402; MvS, 28:486; ML2, 28:548; MDoh, 28:625; MNH, 28:843–4; MMron, 29:807, 808, 810, 812, 820.

⁶² Thus, on my reading, the distinction between real and logical grounds is ultimately a distinction in what grounds the grounding relation itself: the principle of non-contradiction (logical grounds) or something else.

⁶³ The same point applies to relative positing (see above): the judgment that *A* is human contradicts the judgment $\neg(A$ is fallible).

logical grounding because if an object were posited under *<human>* but not under *<fallible>* then a contradiction would result: Something would be A & B, but also \neg B.

The definition of a real grounding is deceptively simple: α is a real ground of β just in case α grounds β but α is not a logical ground of β . This is informative only to the extent that we have a grasp on what the grounding relation in general is. Since Kant does not give a reductive analysis of that relation, we cannot give a reductive analysis of *<real ground>*. Consequently, we must acquire our understanding of this notion from its role in Kant's theory and its systematic interconnections with other notions. I will therefore postpone further discussion of real grounds until we have turned to a consideration of various kinds of real ground in Kant's system, most importantly, causation.

(e) *Ground of Being vs. Ground of Becoming*

Finally, Kant borrows from Baumgarten the distinction between the ground of being (*ratio essendi*) and the ground of becoming (*ratio fiendi*).⁶⁴ In *Mronovius* he explains the distinction as follows:

Ratio essendi is the ground of that which belongs to a thing according to its possibility, e.g., the three sides in the triangle are the ground of the three corners. Here I speak merely of a possible triangle; considered in actuality, e.g., the ink and quill are the *ratio fiendi* of the triangle, and *ratio fiendi* is cause. (MMron, 29:809)

A *ratio essendi* is a ground of the possible being of a thing, while a *ratio fiendi* is a ground of its actual existence. Merely possible beings, or beings considered solely qua possible (e.g. Kant's merely possible triangle), possess a ground of being but lack a ground of becoming. The concretely existing triangle, a shape or physical figure, will possess a ground of becoming, that is, a cause that brought it into existence: Kant identifies the ground of becoming with the cause, a point to which I will turn in Section IV. He holds that all causes are real grounds, but in Section V I will argue that some grounds of possibility are real grounds as well, so he accepts real grounding relations that are not causal relations.

⁶⁴ M, §311; Kant discusses the distinction in MH, 28:36, 54; MvS, 28:523; ML2, 28:571; MDoh, 28:647; MK2, 28:724; MMron, 29:809, 844. In fact, Baumgarten's original distinction, retained in some of Kant's lectures, is tripartite, between the *ratio essendi*, the *ratio fiendi* and the *ratio cognoscendi*. However, as I explained in note 53, I think the first two are explanatory grounds, as opposed to the epistemic *ratio cognoscendi*. I therefore discuss them separately.

IV. Causation

In this section I discuss the real grounding relation about which Kant has the most to say in his lectures and in his published work, namely causation.

(a) Causation as a Species of Real Grounding

Consider Kant's definition of <cause> in *Mrongovius*: "That which contains the ground of the existence [*Dasein*] of something, is the cause" (MMron, 29:843).⁶⁵ More specifically, a cause is a *real* ground. Already in the *Herder* transcripts Kant holds that causation is a real grounding relation, and he maintains this view throughout every set of lectures we have. His claim that causation is not a logical grounding relation amounts to this: The nexus between a real ground and its consequence is not explained by the principle of contradiction. No logical analysis, even if we were logically omniscient, of the concept of, say, fire (<fire>), would explain why objects that instantiate this concept cause the existence of smoke. This does not mean merely that <causes smoke> is not a mark of <fire>. While that may not in fact be a mark of that concept, Kant's point does not hinge on this. We can surely coin a new concept <fire⁺> that includes this mark (in Kant's later Critical terminology, it is analytic that fire⁺ causes smoke), but if we do so we will merely have included a causal relation among the marks of a concept; we will not, however, have *explained* that causal relation. In fact, it is arguably the causal relation that explains the conceptual connection: It is because fire causes smoke that it falls under <fire⁺>, the concept that contains <causes smoke> among its marks. Thus, while <fire⁺> contains <causes smoke>, the causal connection between fire and smoke is neither identical nor reducible to that conceptual connection.⁶⁶

Kant's point is deceptively simple but quite important. The model of logical grounding I sketched above is one in which a single object's falling under a concept explains why that very same object falls under a different concept (a mark of the first). This is why Kant emphasizes that a logical ground is a ground of a predicate *in one and the same object* (see the passage quoted from the *Herder* transcripts above). This is why the nexus between a logical ground and its consequence is explicable *via* the principle of contradiction: A contradiction would arise if an object fell under the whole concept but not the mark. It provides no model for explaining

⁶⁵ Cf. ML2, 28:549; MMron, 29:808.

⁶⁶ Kant gives an argument to this effect in NG, 2:202), which I reconstruct elsewhere (Stang 2016, pp. 88–9).

why the existence of one object (or the properties of that object) explains the existence or the properties of another object. This is crucial, since Kant defines a cause as the ground of the existence of something *distinct*: “A cause is that from which the existence (*Existenz*) of another follows” (MMron, 29:808).⁶⁷ Thus, logical grounding provides no way of accounting for an efficient causal relation where one object explains why a numerically distinct object has a given property, for instance (to use one of many sun-related examples in Kant’s lectures), why the sun shining explains why the stone is warm. Since causes are grounds, they must be real, non-logical grounds.

(b) *Kant’s Model of Causation as Grounding*

Throughout his lectures on metaphysics, Kant articulates a more detailed conception of the grounding structure of causation. I will follow Kant and focus on the case of causation among finite things (the model would have to be amended slightly to account for divine creation of finite things). I have prescinded up to this point from precisely specifying the *relata* of grounding relations, because those *relata* differ, depending on which grounding relation is under discussion: Logical grounding is between concepts, while real grounding is between things. But in the case of (finite) causal grounding we can be quite specific: Causal grounds (causes) are substances, and causal consequences (effects) are accidents.⁶⁸ A substance, insofar as it grounds not the actual existence of an accident but its real possibility, is said to possess a *capacity* (*Vermögen*).⁶⁹ Substances have both passive capacities (capacities to be altered by substances) and active capacities (capacities to alter substances). A substance, insofar as it causally grounds the actual existence of an accident, is said to have *force* (*Kraft*). Kant adamantly, and repeatedly, rejects Baumgarten’s definition of force as that which grounds the existence of an accident.⁷⁰ This identifies forces with substances, but according to Kant forces are not identical to substances; rather, a force is a relation (*respectus*) that a substance bears to the accidents whose existence it causes.⁷¹ A substance that does not ground the

⁶⁷ Cf. A243/B301: “From the concept of a cause as a pure category [. . .] I will not find out anything more than that it is something that allows an inference to the existence of something else.”

⁶⁸ This would have to be modified to account for divine causation, since Kant thinks that created things are not mere accidents (contra Spinoza). Watkins (2004), ch.4, outlines Kant’s model of causation.

⁶⁹ MH, 28:27; MVol, 28:434, 512, 515; MvS, 28:640; MMron, 29: 796, 823–4. ⁷⁰ *Meta*. §197.

⁷¹ MH, 28:25–26, 129; MLI, 28:261; MVol, 28:431; MvS, 28:511; MMron, 29:770, 833.

existence of an accident is not a force, and does not possess a force, but at most a capacity (*Vermögen*). In order for an accident to actually exist in a substance, a ground of its real possibility (the capacity of that substance to receive the alteration) and a ground of its actual existence (a force) must be present. To relate this to a previous distinction, this means that a capacity is a partial/insufficient ground of the existence of an accident; the complete/sufficient ground of the accident would be the activation of that capacity, the force (*Kraft*). Causal grounds can be subordinated to one another, in which case the cause of a given effect is itself the effect of a further cause, and so on.⁷² Or causal grounds can be coordinated, as when multiple substances cooperate to produce a given effect; in this case, the causes are said to “concur.”⁷³

Kant's doctrine that grounds must be complete/sufficient has the effect of “flattening out” things' causal roles: None of the proper parts of the complete cause are causes *full stop*. But our actual talk of causes is more fine-grained than that; when we are asked for the cause of a given effect, we typically cite something that, by itself, is not sufficient to bring about the effect. We typically cite an incomplete/insufficient cause. A series of further distinctions Kant makes within efficient causation are intended, I take it, to restore some of that fine-grained structure. Within the insufficient causes that make up a complete cause, Kant distinguishes the “principal cause” and the “auxiliary cause.”⁷⁴ To use Kant's example in *Metaphysik L₂*, the principal cause of the firing of a cannonball is the soldier who ignites the cannon, and the auxiliary cause is the gunpowder.⁷⁵ Obviously, without the gunpowder the cannonball would not have been fired (Kant calls it a condition *sine qua non*), but we are supposed to share the intuition that the soldier is more causally relevant to the cannonball firing than the powder, a mere instrument by which the soldier affected the cannonball. However, Kant gives us no principled reason for distinguishing the principal cause (the soldier) from the merely auxiliary cause (the gunpowder).

More interestingly, given the role that space and time play in making causal relations possible in the *Critique of Pure Reason*, Kant considers the causal role of the spatiotemporal circumstances (*Umstand, circumstantia*)

⁷² MMron, 29:844–5. Given the model of causation I have outlined, this needs to be spelled out more precisely, as follows: substance *s*₁ can cause an accident *a* in substance *s*₂, which, partly in virtue of being modified by *a*, can cause accident *a** in substance *s*₃. Thanks to Damian Melamedoff for pressing me on this point.

⁷³ ML1, 28:347; ML2, 28:571–2; MDoh, 28:648–9); MK3, 29:1014–15; MK2, 28:719, 811.

⁷⁴ MH, 28:38; ML2, 28: 572–3; MMron, 29:845; MDoh, 28:648. Cf. M, §320.

⁷⁵ ML2, 28: 572–3.

of a given causal nexus.⁷⁶ In the context of Kant's distinction between principal and auxiliary cause, I take this to be a recognition that, in space and time, no cause is a complete/sufficient cause unless we hold fixed the spatiotemporal relation to its effect. The very same cause, in a different spatiotemporal relation to the substance in which its effect inheres, would produce a different effect. For instance, to recall Kant's example of the stove and the heated room (A202/B248), if the stove were not in the room but directly outside it, or if the room were bigger, or the stove were heated for a while and then extinguished, the temperature of the room would be different. But if we take seriously the idea that a complete ground is sufficient to bring about the effect, and a complete ground is a substance and thus cannot be a set of spatiotemporal relations (which, being modifications of forms of intuition, cannot be substantial), it seems that Kant's Critical model of causation needs to be amended from a simple *substance-accident* model to a more complex *substance-spatiotemporal circumstance-accident* model. Developing such a model lies outside the scope of this chapter, though.

V. Non-causal Real Grounds

All causes are real grounds, but in some lecture transcripts Kant appears to go further and identify real grounds as such with causes. For instance, in the *Volckmann* transcripts he says: "That which contains the real ground of a consequence is called 'cause'" (MVol, 28:403).⁷⁷ In this section, I will argue that this cannot represent his considered view, for he is committed, both implicitly and explicitly, to the existence of real grounds that are not causal grounds.

(a) *Pre-Critical*

It is clear that in the pre-Critical system of the early 1760s Kant is committed to there being conceptual space between real grounding and causation.⁷⁸ In BDG, Kant distinguishes between the "logical" and the "material" elements of possibility. The logical requirement on possibility is that a possible predicate be internally logically consistent (i.e. that it not contain both A and $\neg A$ as marks). Logical consistency on its own is not sufficient for possibility: If a predicate is possible, then there must exist

⁷⁶ ML2, 28:573; MDoh, 28:649; MMron, 29:845. Cf. M, §323. ⁷⁷ Cf. MH, 28:37, 102.

⁷⁸ I borrow the idea of a pre-critical system of the 1760s from Henrich (1967).

a real ground of its possibility.⁷⁹ While Kant does not use the terminology of “real” and “logical” possibility in the BDG itself, we can borrow that later, Critical terminology, and express Kant’s view as follows: Real possibility requires a real ground, while logical consistency is sufficient for logical possibility.⁸⁰ In BDG, Kant also offers an elaborate argument that there is a unique, simple and real ground of all (real) possibility, which is (or possesses) a mind. Kant identifies this mind that grounds all real possibility as God.⁸¹ While Kant never unambiguously states the nature of the real grounding relation between God and real possibility, it is clear that it is not a relation of causal grounding.⁸²

The BDG idea that God is the real, but non-causal, ground of the material element of all possibility is found throughout the contemporaneous *Herder* transcripts.⁸³ It is also found in *Metaphysik Volckmann*, the very lectures in which Kant appears to equate real grounds with causes, as well as many other sets of lectures from the Critical period.⁸⁴ I think that this is sufficient reason to dismiss that passage (and a pair of others⁸⁵) as either mistaken transcriptions or slips on Kant’s part. His consistent view is that not all real grounds are causes.

Intriguingly, during the Critical period, Kant appears to continue to endorse, at least in lectures, the pre-Critical view that God is the unique real ground of all real possibility. In *Pölitiz Religion Lectures* Kant writes:



On this point rests the only possible ground of proof for my demonstration of God’s existence, which was discussed in detail in a work I published some years ago. Here it was shown that of all possible proofs, the one which affords us the most satisfaction is the argument that if we remove an original being, we at the same time remove the substratum of the possibility of all things. – But even this proof is not apodictically certain; for it cannot establish the objective necessity of an original being, but establishes only the subjective necessity of assuming [*annehmen*] such a being. But this proof can in no way be refuted, because it has its ground in the nature of human reason. For my reason makes it absolutely necessary for me to assume a being which is the ground of everything possible, because otherwise

⁷⁹ BDG, 2:77–8.

⁸⁰ Although “real possibility” (*reale Möglichkeit*) does not appear in BDG, it does appear in R, 4196, 17:452, which Adickes dates to 1769–70.

⁸¹ This argument, in rather condensed form, is found at BDG, 2:82–9.

⁸² That God is a real ground of (real) possibility is clear from BDG, 2:79, 82–5, 88. That God is not the cause of (real) possibility is clear from Kant’s rejection of the Cartesian view of possibility; see BDG, 2:91, 100, and the nearly contemporary MH, 28:134. There is now an extensive critical literature on these issues in BDG; see especially Chignell (2009), Abaci (2014) and Stang (2016).

⁸³ MH, 28: 128, 132–4, and 150.

⁸⁴ MH, 28:457. See also MDoh, 28:692; MK2, 28:779, 781–2, 796. ⁸⁵ See note 74 above.

I would be unable to know what in general the possibility of something consists in [*worin etwas möglich sey*]. (RelPö, 28:1034)

The status Kant now claims for this proof is no longer that of an objectively valid deduction, but a subjectively valid rational requirement. Nonetheless, that this proof remains even *prima facie* conceptually coherent to Kant in the mid-1780s⁸⁶ means that he does not identify the concept <*real ground*> with <*cause*>, for in the very same period he frequently distinguishes between causes as grounds of becoming (*ratio fiendi*) and non-causal grounds of being (*ratio essendi*).⁸⁷ God, the ground of all real possibility, cannot be a *ratio fiendi* of possibility because possibilities do not “become” (they do not go from being impossible to possible in time). If there is a God, he must therefore be the *ratio essendi* of real possibility, a non-causal real ground.

(b) *Critical*

I am now going to give some examples of real grounding relations within Kant’s Critical system that are non-causal. In some cases, these are explicitly characterized by Kant as non-causal real grounds; in other cases, it is a consequence of Kant’s larger views that these are real grounds but not causes, but he does not state this explicitly.

Space and Time. Space is a ground of spaces, that is, determinate and bounded subregions of the whole space.⁸⁸ Space is not a *cause* of those spaces, because space is not a causally efficacious substance, but a mere form. However, the relation between space and spaces is not a conceptual one. In the Transcendental Aesthetic, Kant argues that spaces are not related to space as marks to a concept, because a concept cannot contain infinitely many marks.⁸⁹ Recall that the relation between concept A and concept B is a logical grounding relation just in case B is a mark of A; it would be a violation of the PNC if something instantiated A but not B (because B is a mark of A), so the positing relation between A and B can be explained solely through the PNC. Since spaces are not marks of space (or <*space*>), the positing relation between space and spaces (if there is space, there are spaces) is not the relation of a concept to its marks and cannot be explained through the PNC. By definition, then, space is a real

⁸⁶ Kant lectured on rational theology during the winter semesters of 1783–4 and 1785–6; it is unclear which series of lectures is the basis of the Pölitz transcripts. See Kant (1996, pp. 337–8) for more.

⁸⁷ See the texts cited in section III.e. ⁸⁸ A25/B39. Cf. R, 4319, 17:504; MvS, 28:483. ⁸⁹ B40.

non-logical ground of the infinitely many spaces contained in it. Parallel reasoning shows that time is the non-causal real ground of times (temporal intervals with non-zero duration).⁹⁰ One might also wonder whether there are grounding relations between spaces (or times); various remarks Kant makes suggest that there are.⁹¹ Such a grounding relation would have to obey the structural principles of grounding *überhaupt*: (a) irreflexivity, (b) transitivity and (c) asymmetry. One spatial relation that has these structural features is *proper inclusion*, the relation one region R bears to a region R* when R is wholly enclosed within R* but is not identical to R*. Whether Kant in fact thinks a region of space grounds the spaces wholly included within it, I will not attempt to determine here.⁹²

Space is not only the ground of spaces but also a ground of the possibility of the objects in space (appearances).⁹³ There could not be objects in space without space, but we represent space without representing objects in it.⁹⁴ There is an asymmetric order of explanation here: Space makes objects possible, not vice versa. Likewise, time asymmetrically explains the possibility of objects in time (that is, inner states).

Mathematical objects. In the contemporary literature on grounding, one of the principal sources of “intuition pumps” that are supposed to convince readers of the existence of non-causal, non-logical metaphysical explanation relations has been mathematical examples in which, intuitively, one mathematical truth asymmetrically explains another, even though, both being necessary, they necessarily entail one another.⁹⁵ Interestingly, Kant uses a similar example:

Ratio essendi is the ground of that which belongs to a thing according to its possibility, e.g., the three sides in the triangle are the ground of the three corners. (MMron, 29:809)

What contains the ground of something is called the *principium*. The cause is that which contains the ground of the actuality of the determination or the substance. The three lines in a triangle are the ground, but not the cause. (ML2, 28:571)⁹⁶

Kant is making the intuitive point that the trilaterality of the triangle (the fact that it has three sides) explains its triangularity (the fact that it has three angles) and not vice versa. In the *Metaphysik Mronovius*, he points

⁹⁰ Cf. A32/B47–8. ⁹¹ MMron, 29:880. ⁹² Parallel issues arise for time, of course.

⁹³ A24/B38–9, A28/B44, B202. Cf. R, 4119, 17:424; R, 6290, 18:558; MDoh 28:653; MMron, 29:832.

⁹⁴ A24/B38–9. ⁹⁵ The *locus classicus* being Fine (1994).

⁹⁶ It is possible that these are transcriptions of the same lecture, but, according to Ameriks's and Naragon's Introduction to Kant (1997), this is unlikely.

out that the triangle's trilaterality does not *cause* it to have three angles, for we are talking about the triangle merely qua object of a possible construction (which has no causal powers) rather than as the ink-and-paper illustration (which does). What's more, on Kant's own view of geometry, this is not a logical-grounding claim: One cannot prove that any three-sided plane figure has three angles merely by using the PNC; one must use geometric construction, which introduces an irreducibly non-logical (because intuitional) element. Consequently, Kant is committed to the trilaterality of the triangle being a non-causal real ground of its triangularity.

Unity of apperception. In passages in both editions of the *Critique of Pure Reason*, Kant makes an analogy between space and time as grounds of the possibility of objects in space and time and the unity of apperception as the ground of the possibility of cognition of those objects:

The supreme principle of all intuition in relation to sensibility was, according to the Transcendental Aesthetic, that all the manifold of sensibility stands under the formal conditions of space and time. The supreme principle of all intuition in relation to the understanding is that all the manifold of intuition stands under conditions of the original synthetic unity of apperception. (B136)

[T]he numerical unity of this apperception grounds all concepts *a priori* just as the manifoldness of space and time grounds the intuitions of sensibility. (A107)

If we take seriously the grounding relation between space and objects of intuition, and if we take seriously Kant's analogy, it follows that the unity of apperception is a ground of the possibility of the objects of cognition. The unity of apperception is not a logical ground of the possibility of objects of cognition, for we cannot cognize the possibility of objects of cognition solely by analyzing the concept *<unity of apperception>* into its marks; but neither is the unity of apperception a *cause* of the objects of experience. This entails that the unity of apperception is a real non-causal ground of the possibility of objects of cognition.

Principles of experience.⁹⁷ In fact, the doctrine of real non-causal grounds lies at the very center of Kant's whole critical enterprise. Consider one of the most frequently occurring phrases in the whole *Critique of Pure Reason*: *x* is said to "*a priori* ground" (*a priori gründen*)

⁹⁷ My thinking in this section is deeply indebted to Smit (2009).

or to be the “*a priori* ground” or “ground of possibility” of *y*.⁹⁸ For instance, one of the central doctrines of the first *Critique* is that the principles of experience are *a priori* grounds of the possibility of experience. One might be tempted to read “*a priori* grounds” in this idiom purely epistemically: *x* is a ground of knowing *y* independently of experience. But in the context of Kant's lectures and other eighteenth-century theories of ground, it is reasonable to read Kant as making the stronger claim that the principles of experience are explanatory grounds of the possibility of experience. Thus, these grounding relations entail the possibility of *a priori* knowledge, but understood in its traditional meaning as: knowledge from the grounds.⁹⁹ In knowing objects of experience from the principles of experience we know possible objects of experience from the very grounds that make them possible. This also casts new light on Kant's frequent use of “principle” (*Grundsatz*, *Prinzip*) in the *Critique of Pure Reason*, for Kant repeatedly equates principles with grounds in his lectures,¹⁰⁰ and he begins the System of Principles by writing: “*A priori* principles bear this name because they contain in themselves the grounds of other judgments, but also because they are not themselves grounded in higher and more general cognitions” (A148/B188). The principles of experience are not merely ~~among the grounds~~ of the possibility of experience; they are ~~among~~ the ultimate first grounds of the possibility of experience.¹⁰¹

In fact, Kant explicitly draws this connection between his Critical project and the traditional German rationalist conception of ground in his lectures. *Metaphysik Mrongovius* begins with Kant saying:

We consider here (in metaphysics) not things as they are connected as grounds and consequences, but rather cognitions. [. . .] I can imagine a cognition that is not a consequence, thus the highest ground, and [one] that is not a ground, thus the last consequence. [. . .] We thus have an idea of a connection of cognitions as grounds and consequences. Cognitions which are the grounds of grounds that follow a certain rule are called *principia*. Thus, insofar as cognitions are in a series, there must also be *principia*. [. . .] If I begin from the consequences, then I cognize something *a posteriori*; if

⁹⁸ B14, A24–5, A31/B47, A87/B120, A94/B126, A113, A118, B151, A160/B199, A218n/B265n, A237/B296, A262/B319, A306/B362, A353, A401, A562/B590, A564/B592.

⁹⁹ For the traditional meaning of *a priori* knowledge, see MMron, 29:748.

¹⁰⁰ Most notably, MVol, 28:355–6 and MMron, 29:747–9. Given the similarity of these two passages, they may constitute different transcriptions of the same lectures.

¹⁰¹ More precisely, they terminate the grounding chain constituted by judgments. As Kant goes on to make clear in the next paragraph, they are themselves grounded by intuition (space and time) and understanding (unity of apperception). A complete treatment of the grounding structure of Kant's system would have to separate all of these grounding relations.

I begin from the grounds, then I cognize *a priori*. (MMron, 29:748; Kant 1997¹⁰²)

What Kant here calls “metaphysics” corresponds more closely to what the first *Critique* calls “transcendental philosophy”: uncovering the first principles of cognition that make all other cognitions possible. This is a priori cognition, not (merely) in the sense of being justified independently of experience, but in the sense of cognition from the ground; we come to cognize why all other cognitions (including experiential ones) are possible. In the very same passage, Kant endorses Baumgarten’s definition of metaphysics as “the science of the first principles of human cognition, which thus contains the first member of the series” (MMron, 29:749). While Kant understands this formula in a very different way than Baumgarten himself does, this should not obscure a structural similarity: Metaphysics – more precisely, transcendental philosophy – uncovers principles, that is, the highest or first grounds.

I take it to be clear in this context that the grounding relation that Kant has in mind is neither causal nor logical. The first grounds of human cognition are not *causes* of experience, but non-causal grounds that make that cognition possible. Nor are they logical; for the first grounds of human cognition, in their definitive presentation in the *Critique of Pure Reason*, do not constitute some concept whose marks are lower-level grounded cognitions and experience itself. Instead, this relation is an instance of what, as I have been arguing throughout this section, Kant retains within the Critical system: non-causal real grounds.

Let me conclude by warning against assimilating the grounding relation Kant discusses in the opening pages of both the *Mronovius* and the *Volckmann* transcripts to a merely epistemic relation. Kant stresses that the consequence can be the ground of (a posteriori) knowledge of the principles (grounds), and, vice versa, that the principles are grounds of (a priori) knowledge of the consequences.¹⁰³ The bare epistemic grounding relation (being a ground of knowledge) is therefore not fine-grained enough to distinguish ground from consequence. Kant’s notions of “ground” and “consequence” here must therefore be explanatory. Nonetheless, this explanatory, non-logical, non-causal real grounding relation is “epistemic” to the extent that it holds between *cognitions* not *things*, as Kant emphasizes (see the underlined sentence in the passage quoted above). But to say this is not to deprive Kant’s discussion here of grounding of any “metaphysical” import

¹⁰² Cf. MVol, 28:355–6. ¹⁰³ MMron, 29:748. Cf. MVol, 28:356.

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whatsoever. Recall a key principle of the possibility of synthetic a priori judgments in the first *Critique*: “The conditions of the possibility of experience in general are at the same time conditions of the possibility of the objects of experience” (A158/B197). Grounds of cognition are at the same time grounds of the objects of cognition.¹⁰⁴

¹⁰⁴ I would like to thank Ian Drummond for some truly excellent (and last-minute) copy-editing on this paper. Thanks also to Damian Melamedoff for truly perceptive and helpful comments. I have learned a great deal from Damian on all matters relating to ground in Kant and German rationalism.