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Kant's Hidden Ontology of Space

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy

in

Philosophy

by

James Anthony Messina

Committee in charge:

Professor Eric Watkins, Chair
Professor Stephen Cox
Professor Rick Grush
Professor Donald Macleod
Professor Donald Rutherford

2011

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(Chair)

University of California, San Diego

2011

DEDICATION

To Kim, whose intelligence, patience, playfulness, and sense of humor were
a condition on the possibility of this dissertation

EPIGRAPH

Metaphysics seeks to discover the nature of space and establish the ultimate principles, in terms of which its possibility can be understood. Now, nothing could be of more use in such an undertaking than the capacity to acquire reliably established data from some source or other, with a view to using them as the foundation of one's reflection. Geometry furnishes a number of such data relating to the most universal properties of space, for example, that space does not consist of simple parts. And yet these data are ignored and one relies simply on one's ambiguous consciousness of the concept, which is thought in an entirely abstract fashion. If it should then happen that speculation, conducted in accordance with this procedure, should fail to agree with the propositions of mathematics, then an attempt is made to save the artificially contrived concept by raising a specious objection against this science, and claiming that its fundamental concepts have not been derived from the true nature of space at all, but arbitrarily invented.

Immanuel Kant

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I'd like to thank, second of all, all the faculty at UCSD with whom I had the pleasure of learning and/or working. I am especially indebted to those faculty (in particular, Sam Rickless, Clinton Tolley, Don Rutherford, Rick Grush, and Michael Hardimon) who read through versions of some of the chapters of my dissertation and provided me with copious comments and criticisms. (I doubt they will agree with all the interpretive moves I make here, but like mutually interacting substances in space,

they all helped to determine my final position.) I owe a special debt of gratitude to Eric Watkins, who was nothing short of amazing as a dissertation advisor, providing endless encouragement, feedback, and advice, and ensuring that I had all the resources (including time, money, and German *Sprachkompetenz*) that I would need to finish my project. With Eric as an advisor, it was sometimes difficult to find things to gripe about (though that usually didn't stop me).

Last but not least, I'd like to thank my family: my mom (Pat), my dad (Bob), my sister (Nikki), and my girlfriend (Kim). Without your love, support, and encouragement, Kant's ontology of space would still remain hidden.

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“Leibniz on Compossibility,” (with Donald Rutherford) *Philosophy Compass* 4, Issue 6 (December 2009): 962–977.

Review of *Self-Consciousness*, by Sebastian Rödl, *Journal of Consciousness Studies* 16, No. 2–3 (2009): 199–208.

Various entries (“Leibniz-Wolffsche Schule,” “Gesetzlichkeit,” “Regelmäßigkeit,” “Allgemeinheit,” “Prinzip,” etc) in the *Kant-Lexikon* (Forthcoming).

ABSTRACT OF THE DISSERTATION

Kant's Hidden Ontology of Space

by

James Anthony Messina

Doctor of Philosophy in Philosophy

University of California, San Diego 2011

Professor Eric Watkins, Chair

In the Transcendental Aesthetic of the *Critique of Pure Reason*, Kant famously claims that space is the *a priori* form of outer intuition (the 'Form Thesis'). Inspired by P.F. Strawson's discussion of it, a number of prominent contemporary philosophers have seen in this claim a brilliant and distinctly Kantian insight about the relationship between space and objective experience. Unfortunately, Kant commentators, whose job it is to determine the precise meaning of the Form Thesis, the nature of Kant's argument for it, and its relationship to Kant's claims about space later in the *Critique* (in particular, in the Transcendental Analytic), have made little progress in their

efforts. As I argue, this is because they have failed to see that Kant's Form Thesis is part of a larger metaphysics of space and is only intelligible in terms of it. In my dissertation, I interpret Kant's Form Thesis in light of his (largely unexplored) views about the relationship between space and mutual interaction (which Kant calls 'community'), and about the ontological grounding of various spatial properties. I argue that Kant's Form Thesis is part of a rich metaphysics of space that combines realist and idealist elements, and that takes as its starting point a very general characterization of space as the ground of the possibility of the community of the things in it.

Introduction

1. The Form Thesis

In the *Critique of Pure Reason*, Kant famously claims that space is “the pure form of all outer intuition” [*die reine Form aller äußeren Anschauung*] (A34/B50).¹ One upshot of this claim, which I call the *Form Thesis*, is that we cannot perceive objects that we take to be distinct from us [*außer uns*] without representing those objects in a spatial framework. The Form Thesis is of keen interest for at least two reasons. First, in addition to being a central part of Kant’s Critical account of space and spatial cognition, the Form Thesis is a key component of Kant’s well-known doctrine of Transcendental Idealism. We cannot understand Kant’s distinction between *appearances*, which he takes to be spatio-temporal and knowable, and things-in-themselves, which he takes to be non-spatio-temporal and unknowable, without first understanding what the Form Thesis means and why Kant accepts it. Second, Kant’s argument for the Form Thesis is often thought to rest on an idea that several

¹ References to the *Critique of Pure Reason* are given according to the pagination of the first (A) and second (B) editions. In quotations, I have followed *Critique of Pure Reason*, ed. and trans. Paul Guyer and Allen Wood (Cambridge: Cambridge University Press, 1998). References to other works by Kant are given by volume and page number in the Berlin Akademie edition (cited as Ak.). In quotations from Kant’s post-1781 published works in theoretical philosophy (such as the *Metaphysical Foundations of Natural Science*), I have followed *Immanuel Kant: Theoretical Philosophy after 1781*, ed. Henry Allison and Peter Heath, trans. Gary Hatfield, Michael Friedman, Henry Allison, and Peter Heath (Cambridge: Cambridge University Press, 2002). In quotations from Kant’s pre-Critical philosophical publications, I have followed *Immanuel Kant: Theoretical Philosophy: 1755-1770*, ed. and trans. David Walford and Ralf Meerbote (Cambridge: Cambridge University Press, 1992). In quotations from Kant’s scientific publications (such as the *Thoughts on the True Estimation of Living Forces*, the *New System of Motion and Rest*, and the *Universal Natural History and Theory of the Heavens*), I have followed *Immanuel Kant: Scientific Writings*, ed. Eric Watkins, trans. O. Reinhardt, Jeffrey Edwards, Martin Schönfeld, and Eric Watkins (Cambridge: Cambridge University Press, in Press). In quotations from Kant’s lectures on metaphysics, I have followed *Immanuel Kant: Lectures on Metaphysics*, ed. and trans. Karl Ameriks and Steve Naragon (Cambridge: Cambridge University Press, 1997). In quotations from Kant’s lectures on logic, I have followed *Immanuel Kant: Lectures on Logic*, ed. and trans. J. Michael Young (Cambridge: Cambridge University Press, 1992). I have occasionally made some small changes to these translations.

influential contemporary philosophers have tried to resurrect and defend in recent years. The idea in question, sometimes simply called the *Kantian Thesis*, is that space is a necessary condition of objective experience.² If we are to understand what the historical Kant thought about the relationship between space and objective experience (and determine whether or not Kant's actual view is worth rehabilitating) it is necessary to come to terms with the Form Thesis.

There is an enormous amount of secondary literature devoted to the Form Thesis. It has received more attention than almost any other philosophical doctrine ascribed to Kant. (This is partly due to its central role in Kant's philosophical system as well as its highly provocative character. But it probably also has something to do with the fact that the Form Thesis is strategically placed towards the beginning of the *Critique*, such that even the most undisciplined readers are likely to get to it.) Yet, despite all that has been written about the Form Thesis, there is no consensus about its meaning, Kant's grounds for endorsing it, and its relation to his other views about space. Indeed, Kant commentators cannot even agree about what *kind* of a claim it is – epistemological, conceptual, psychological, metaphysical, or something else entirely.

To a certain extent, the lingering disagreement can be chalked up to the novelty of Kant's view. Nowhere in the early modern period before Kant do we find anything remotely resembling the claim that space is “the pure form of all outer

² See Gareth Evans, “Things Without the Mind—A Commentary upon Chapter Two of Strawson's *Individuals*,” [“Things Without the Mind”] in *Collected Papers* (Oxford: Clarendon Press, 1985), 250–290. For other discussions of this idea, see P.F. Strawson, *The Bounds of Sense* (London: Methuen, 1966); P.F. Strawson, *Individuals: An Essay in Descriptive Metaphysics* (London: Methuen, 1959); Quassim Cassam, “Space and Objective Experience,” in *Thought, Reference, and Experience: Themes from the Philosophy of Gareth Evans*, ed. Jose Bermudez (Oxford: Clarendon Press, 2005), 258–289.

intuition.” Many of Kant’s philosophical predecessors, in particular, Descartes, Newton, Leibniz, and Wolff, were engaged in a debate about what sort of thing space is, and about whether or not space can exist in the absence of corporeal substances (i.e. bodies). There were three main views about what space is: space is a substance (or something substance-like); space is an accident of substance; space is a relation among corporeal substances. Newton, a proponent of the first view, insists that space (which he views as a sort of all-encompassing receptacle) would continue to exist even if God were to annihilate all bodies.³ By contrast, Descartes argues that space is an accident of corporeal substances, from which it follows that space cannot exist unless bodies do as well.⁴ While agreeing with Descartes about this last point, Leibniz and his disciple, Wolff, argue that space is a relation among corporeal substances.⁵ At least at first glance, none of these philosophers defends a view at all close to the Form Thesis.

Nor did the pre-Critical (that is, pre-1770) Kant. In his early career, Kant takes a position on the questions of what space is, and whether it can exist if no bodies exist, close to that of Leibniz and Wolff. As he writes in the *New Elucidation* [1755], “[p]lace, position and space are relations of substances....” (Ak. 1:414). Where the early Kant differs from Leibniz and Wolff is on the issue of whether real or merely

³ Isaac Newton, “*De Gravitatione*,” in *Space from Zeno to Einstein: Classic Readings with a Contemporary Commentary*, ed. Nick Huggett (Cambridge, Massachusetts: MIT Press, 1999), 107–115 (110–111). See also Isaac Newton, “*Principia*,” in *Space from Zeno to Einstein: Classic Readings with a Contemporary Commentary*, ed. Nick Huggett (Cambridge, Massachusetts: MIT Press, 1999), 116–125 (118).

⁴ See, e.g., René Descartes, *Descartes: Selected Philosophical Writings*, trans. John Cottingham, Robert Stoothoff, and Dugald Murdoch (Cambridge: Cambridge University Press, 1988), 190–193.

⁵ See, e.g., Gottfried Wilhelm Leibniz, *Philosophical Essays*, trans. Roger Ariew and Daniel Garber (Indianapolis: Hackett Publishing Company, 1989), 324–325 and Christian Wolff, *Rational Thoughts on God, the World and the Soul of Man, and on All Things Whatsoever* [*German Metaphysics*] (Halle, 1720), §46.

ideal causal relations are required in order to constitute space. In maintaining that “the concept of space is constituted by the interconnected actions [that is, real causal relations] of substances” (Ak. 1:415), the pre-Critical Kant offers not so much a new philosophical position as a variation on the Leibnizian-Wolffian position.

This cannot be said for the Critical Kant’s view of space.⁶ With the Form Thesis, Kant appears to be addressing a radically different question from those that occupied Descartes, Newton, Leibniz, Wolff, and the pre-Critical Kant himself: namely, does space exist “objectively” – that is, does it exist independent of our minds and our representations? At least at first glance, this question is orthogonal to the question of whether space is a substance, accident, or relation – particularly when that question is understood in such a way that it is closely linked to the question of whether space can or cannot exist in the absence of bodies.⁷ For one’s answer to Kant’s *new* question, at least in its generic form, is compatible with both answers to the question of whether space would continue to exist in the absence of bodies. The early modern philosopher who comes closest to anticipating Kant’s question, Berkeley, maintains that space is something mind-dependent, while nevertheless denying that it could exist

⁶ See, e.g., Gerd Buchdahl, *Metaphysics and the Philosophy of Science. The Classical Origins: Descartes to Kant [Metaphysics and the Philosophy of Science]* (Cambridge, Massachusetts: MIT Press, 1969), 467: “It is of interest to reflect that Kant managed to tread his way between the Newtonian extreme of space as an empty vacuum, and Leibniz’s theory of relational space, only by the creation of a specific technical device, that of a transcendental (i.e. presuppositional) ‘form of intuition’. And obviously this is not an *answer* to these theories, but a different way of reshuffling the philosophical cards.”

⁷ Andrew Janiak sharply distinguishes all three of these questions. See Andrew Janiak, “Kant’s Views on Space and Time,” in *The Stanford Encyclopedia of Philosophy (Fall 2009 Edition)*, ed. Edward N. Zalta, URL = <<http://plato.stanford.edu/archives/fall2009/entries/kant-spacetime/>>.

without bodies (which he also takes to be mind-dependent).⁸ By contrast, the Form Thesis appears to commit Kant to the view that space is mind-dependent, though he also appears to hold that space can exist without bodies (see, e.g., A24/B38). Similarly, one's answer to the question of whether space is objective or subjective is compatible with a wide range of answers to the question of whether space is a substance, accident, or relation. Despite accepting the Form Thesis, Kant continues to hold that space is in some sense a relation (see e.g., A23/B37–38 and B67). However, *prima facie*, each of the three views (at least when suitably modified) is compatible with the Form Thesis, just as all three are compatible with the claim that space is something objective.

So the Form Thesis is a radically new answer to a radically new question. That goes a long way towards explaining why Kant commentators offer widely different interpretations of it. But the Form Thesis itself is not fully to blame for this state of affairs. At least part of the blame lies in commentators themselves, in particular, in a tendency to project one's own philosophical interests and ideas onto Kant. P.F. Strawson, for instance, who is particularly interested in the details of our conceptual scheme and in the conceptual presuppositions for objectivity, construes the Form Thesis as a claim about the role of the concept of space in our conceptual scheme.⁹ Lorne Falkenstein, who is particularly interested in the workings of spatial perception,

⁸ See, e.g., George Berkeley, *A Treatise Concerning the Principles of Human Knowledge*, ed. Jonathan Darcy (Oxford: Oxford University Press, 1998), 146.

⁹ Strawson, *The Bounds of Sense*, 48–51 and Strawson, *Individuals*, 54.

takes the Form Thesis to be a thesis about spatial perception.¹⁰ Henry Allison, who shares the widespread contempt for metaphysics in contemporary analytic philosophy and the fascination for all matters epistemological, unsurprisingly takes the Form Thesis to be, not a contribution to ontology, but rather to epistemology.¹¹

Such an approach to Kant guarantees that he will have something to say to us about the philosophical questions that we most care about. But it also means that we are not so much listening to Kant as hearing what we want to hear. The alternative is to understand Kant's Form Thesis within the context of Kant's own philosophical interests and most basic assumptions. This requires, in part, looking closely at the details of Kant's philosophical development, as well as the distinctive historical context in which Kant's views emerged.

Particularly relevant here are the debates about space carried on by Kant's contemporaries and immediate predecessors. Philosophers like Alexander Baumgarten and Christian Crusius, who are largely unknown to us today, did not merely have contrasting views about what sort of thing space is, and whether it can exist in the absence of bodies. They also had very different answers to questions that are sometimes not even mentioned in histories of philosophy, concentrating as such histories tend to do on the philosophers and debates that we find most important today. I am thinking here of neglected questions like the following: What is the content of the concept of space? What is the ontological basis of the unity of space (the fact that

¹⁰ Lorne Falkenstein, *Kant's Intuitionism: A Commentary on the Transcendental Aesthetic [Kant's Intuitionism]* (Toronto: University of Toronto Press, 1995), 10–13 and 147–148.

¹¹ Henry Allison, *Kant's Transcendental Idealism: An Interpretation and Defense [Kant's Transcendental Idealism (2004)]* (New Haven: Yale University Press, 2004), 98.

there is just one space, to which every place and physical object belongs)? What is a place? What is the relationship between space and the co-existing substances within it? The pre-Critical Kant was deeply interested in such questions (as he was in the more well-known questions about what space is and whether it can exist in the absence of bodies). And he was very familiar with the answers of his contemporaries, like Baumgarten and Crusius, who were the philosophical stars of their day, even if we have largely forgotten them. Though the Form Thesis is radically new, it did not emerge *ex nihilo*. We should do our best to understand how it evolved out of Kant's engagement with his contemporaries' and immediate predecessors' ideas about space.

2. Three Questions

The goal of this dissertation is to provide non-anachronistic, historically-sensitive answers to three questions: (1) What sort of a claim is the Form Thesis? (2) How does Kant argue for the Form Thesis? (3) How does the Form Thesis fit with the other claims that Kant makes about space in the *Critique*? With regard to (3), I am thinking in particular about Kant's claim, in the Transcendental Deduction, that space depends on the unity of apperception, as well as his claims in the Analytic of Principles about the relationship between space and the categories of *quantity* and *community*.¹²

In this section, I present the most common answers to these questions that one finds in the secondary literature. In the next section, I outline the answers that I will

¹² See, e.g. B136n, B162, B202, A213–214/B260–261, and B292–293.

argue for in subsequent chapters; in doing so, I differentiate my reading from the many other readings of the Form Thesis on offer.

2.1. What Sort of a Claim is the Form Thesis?

Historically, the dominant view of the Form Thesis has been that it is a *metaphysical* thesis – a claim about the nature of space. Some influential contemporary proponents of this view are Gottfried Martin and Paul Guyer.¹³ Almost all commentators who endorse the metaphysical reading of the Form Thesis take it to represent Kant’s most basic answer to the question “what is space?” In other words, they understand the claim that space is the “pure form of outer intuition” to be similar in kind (if not in content) to the traditional views of space as a substance, an accident, and a relation. Kant, for them, is simply adding a new option to the traditional menu of options. The new option, simply put, is that space is a feature of our cognitive apparatus rather than some mind-independent entity.

The metaphysical reading has fallen out of favor of late. One of its chief opponents, Henry Allison, construes the Form Thesis as “an alternative to ontology.”¹⁴ Allison sees Kant not as adding a new metaphysical option with the Form Thesis, but as abandoning entirely the old debate about whether space is a substance, an accident, or a relation. According to Allison, Kant is engaged in a radically new

¹³ See Gottfried Martin, *Kant’s Metaphysics and Theory of Science* (Westport: Greenwood Press, 1951), 11 and Paul Guyer, *Kant and the Claims of Knowledge* (Cambridge: Cambridge University Press, 1987), 345–348.

¹⁴ Allison, *Kant’s Transcendental Idealism* (2004), 98. For a reading of the Form Thesis similar to Allison’s, see Lucy Allais, “Kant, Non-Conceptual Content and the Representation of Space,” *Journal of the History of Philosophy* 47 (July 2009): 383–413. Allais treats the Form Thesis as if it were merely an abbreviated way of saying that (1) our representation of space is *a priori*, and (2) this representation is a condition on the possibility of our being perceptually presented with empirical particulars.

project in the *Critique*. This project involves finding (what Allison calls) *epistemic conditions*. An epistemic condition, for Allison, is a non-logical, non-psychological condition that accounts for the validity of our knowledge of an objective world.¹⁵ By Allison's lights, the Form Thesis amounts to the claim that space is an epistemic condition.¹⁶ Thus, for Allison, the Form Thesis is an epistemological claim – a claim about the role that the representation of space plays in facilitating knowledge of an objective world.

According to another reading, the Form Thesis is neither a metaphysical claim, nor a claim about epistemic conditions. Instead, it is a more narrow thesis about the nature of spatial perception. For Lorne Falkenstein, the most influential proponent of this view, the Form Thesis amounts to the claim that the spatial ordering of objects is immediately “given” to us along with our sensations of them.¹⁷ As Falkenstein understands it, the Form Thesis represents a denial of the claim that spatial perception requires “constructing” spatial relations and features out of sensations that are not initially given to us in a spatial ordering.

By contrast, for P.F. Strawson and like-minded commentators, the Form Thesis (at least in its “austere form”)¹⁸ is neither a metaphysical claim, nor an epistemological claim, nor a claim about spatial perception. Instead, it is a claim about our *conceptual scheme*. In particular, it is a claim about the relationship between the

¹⁵ Allison, *Kant's Transcendental Idealism* (2004), 11.

¹⁶ Allison, *Kant's Transcendental Idealism* (2004), 102 and 120–121.

¹⁷ Falkenstein, *Kant's Intuitionism*, 139.

¹⁸ Strawson claims that Kant vacillates between this version (which he thinks is a defensible position) and an “adventurist” metaphysical version (which he thinks is indefensible). See Strawson, *The Bounds of Sense*, 47–53.

concept of space and the *concept* of objective experience. According to Strawson, the Form Thesis expresses the insight that we cannot make sense of the distinction between our mental states and experience of objects that exist independent of our minds without having the idea of a space-like framework that “houses” those objects.¹⁹

2.2. How Does Kant Argue for the Form Thesis?

Here, too, we find a wide range of positions on offer. Let’s start with Allison. As befits Allison’s epistemological reading of the Form Thesis, he takes Kant’s argument for it to rest crucially on general epistemological considerations – considerations about what is required for objective knowledge. Because Allison finds Kant to be making the claim that space is required for objective knowledge in the section of the *Critique* entitled the “Metaphysical Exposition of the Concept of Space,” he emphasizes the importance of that section for Kant’s argument.²⁰

By contrast, P.F. Strawson argues that Kant’s Form Thesis (in its *non-austere*, metaphysical form) rests most crucially not on general epistemological considerations but rather on Kant’s theory of geometrical cognition.²¹ In particular, Strawson thinks that Kant makes an essential appeal to his theory that all geometrical knowledge is synthetic *a priori*. Michael Friedman similarly emphasizes the role of Kant’s theory of

¹⁹ See Strawson, *The Bounds of Sense*, 48–50.

²⁰ Allison, *Kant’s Transcendental Idealism* (2004), 116.

²¹ Strawson, *The Bounds of Sense*, 57

geometry in his interpretation of Kant's Form Thesis.²² Because Kant's theory of geometry is most prominent in the section of the *Critique* entitled the "Transcendental Exposition of the Concept of Space," both Strawson and Friedman emphasize the importance of that section for Kant's argument.

Yet other commentators, like Lorne Falkenstein, take Kant's argument to rest most crucially on special considerations about how spatial perception works. It is natural for Falkenstein to hold such a view, given his construal of the Form Thesis as a claim about the nature of spatial perception. But even commentators who do not necessarily agree with Falkenstein about this last point, such as Daniel Warren and Gary Hatfield, agree with him that these sorts of considerations are driving Kant's argument.²³ Like Allison, they emphasize the "Metaphysical Exposition of the Concept of Space," though they do not agree with him about what Kant is saying in this section.

2.3. How Does the Form Thesis Fit with Kant's Other Claims about Space?

Whereas the previous two questions have been answered in a wide variety of ways, the third question has received relatively little attention. This is due to the fact that most treatments of Kant's account of space concentrate on the Transcendental Aesthetic, even though Kant's claims about the relationship between space and the so-

²² Michael Friedman, *Kant and the Exact Sciences* (Cambridge, Massachusetts: Harvard University Press, 1992), 55–95.

²³ Daniel Warren, "Kant and the Apriority of Space," *Philosophical Review* 107/2 (Apr. 1998): 179–224; Gary Hatfield, "Kant On the Perception of Space [and Time]," in *The Cambridge Companion to Kant and Modern Philosophy*, ed. Paul Guyer (Cambridge: Cambridge University Press, 2006), 61–93; and Gary Hatfield, *The Natural and the Normative: Theories of Spatial Perception from Kant to Helmholtz [The Natural and the Normative]* (Cambridge, Massachusetts: MIT Press, 1990), 87–90.

called intellectual conditions of cognition (the unity of apperception and the categories) do not occur until the Transcendental Analytic.²⁴ Nevertheless, among those commentators who do explore Kant's views about space in the three relevant sections of the Transcendental Analytic – the Transcendental Deduction (where Kant talks about the relationship between space and the unity of apperception), the Axioms of Intuition (where Kant talks about the relationship between space and the categories of quantity), and the Analytic of Principles (where Kant talks about the relationship between space and the category of community) – it is possible to discern two very general sorts of views about how Kant's later doctrines about space relate to the Form Thesis.

According to one group of commentators, Kant's views about the relationship between space and the intellect are epistemological in nature. They are claims not about the ontological foundation of various properties of space and spatial objects (like figure, magnitude, and location), but rather claims about what is required in order to *know*, or *represent*, such properties. Adopting such an interpretation does not entail any specific answer to the question of what sort of a claim the Form Thesis is. Guyer, for instance, who has a metaphysical reading of the Form Thesis, takes Kant to be making claims in the Analytic of Principles about the conditions on knowing that objects have spatial locations.²⁵ In particular, he interprets Kant as saying that one

²⁴ Falkenstein, for instance, is quite deliberate in restricting his focus to Kant's account of space in the Transcendental Aesthetic, though this does not stop him from making a few remarks about the Transcendental Analytic: see, e.g., Falkenstein, *Kant's Intuitionism*, 96–100 and 382–383.

²⁵ Guyer, *Kant and the Claims of Knowledge*, 274–275.

must know that objects are causally interacting in order to know that they have spatial locations relative to one another.

To take another example, Allison endorses an epistemological reading of the Form Thesis, as we have seen. Allison takes Kant to be asserting in the Transcendental Deduction that the unity of apperception is a condition on *representing* the unity of space.²⁶ To take yet another example, Falkenstein, who interprets the Form Thesis as a claim about spatial perception, thinks that the Transcendental Analytic contains claims about the conditions for knowing that spatial objects have determinate magnitudes and figures.²⁷ For Guyer, Allison, and Falkenstein, Kant is not making a claim about the metaphysical grounding of spatial locations, the unity of space, and the figure and magnitude of spatial objects – rather, he is making a claim about how we come to know or represent these features of space. Indeed, they assume that it is Kant’s view that these features of space and spatial object are in need of no special metaphysical explanation. They are, as it were, given along with space, as the form of outer intuition.

For the above commentators, the views of space that Kant puts forth in the Transcendental Analytic are an epistemological *extension* of the Form Thesis. For this reason, this interpretation could be labeled the *Epistemological Extension Reading*. But there is another group of commentators for whom these views represent a *revision* or modification of the Form Thesis. Though commentators like Beatrice Longuenesse, John McDowell, and Wilfrid Sellars are cagey about whether Kant’s claims about

²⁶ Allison, *Kant’s Transcendental Idealism* (2004), 191.

²⁷ Falkenstein, *Kant’s Intuitionism*, 98–99.

space in the Transcendental Analytic are metaphysical or epistemological in nature, they are clear that these views are not a mere extension of the Form Thesis. As they see it, the Form Thesis, as it is presented in the Transcendental Aesthetic, attributes space to the faculty of sensibility, while in the Transcendental Analytic Kant takes a new view: space depends just as much on the faculty of the understanding.²⁸ To use Longuenesse's term, Kant's claims about the relationship between space and various features of the intellect amount to a "re-reading" of the Form Thesis.²⁹ For this reason, this interpretation could be labeled the *Re-reading Reading*.

3. Three Answers

In the following chapters, I argue for new answers to these three questions. In Chapter 1, I argue that the Form Thesis is a metaphysical claim (a claim about the nature of space). So far, this does not distinguish me from a number of other commentators. However, in contrast to other proponents of a metaphysical reading, I deny that the Form Thesis is Kant's most basic answer to the question "what is space"? Instead, I hold that Kant's basic notion of space is of a framework that makes possible the community, and the co-existence, of whatever substances are in it. Lurking in the background of this characterization of space (which I call Kant's *Fundamental Conception*) are three interlocking assumptions about co-existence,

²⁸ See Beatrice Longuenesse, "Synthesis and Givenness," in *Kant on the Human Standpoint* (Cambridge: Cambridge University Press, 2005), 64–78; John McDowell, "The Logical Form of an Intuition," in *Having the World in View* (Cambridge: Harvard University Press, 2009), 23–43; and Wilfrid Sellars, *Science and Metaphysics: Variations on Kantian Themes [Science and Metaphysics]* (London: Routledge and Kegan Paul, 1966), 30.

²⁹ Beatrice Longuenesse, *Kant and the Capacity to Judge* (Princeton: Princeton University Press, 1998), 213.

community, and space. First, two substances cannot co-exist – that is exist *together* as members of the *same* world – unless each is causally responsible for some determination (or property) in the other. Kant’s name for this kind of mutual interaction is *community*. Second, two substances cannot stand in a community with one another unless there is some third thing that grounds the possibility of their community. Third, when substances in space are in community with one another, the third thing that makes possible their community is space.

On my view, the relationship between the Form Thesis and the Fundamental Conception is as follows. The Form Thesis is an *elaboration* of the Fundamental Conception. The Fundamental Conception says nothing about (i) whether the framework that makes possible the community of the substances in it is mind-independent or mind-dependent, and (ii) what objects are in space. The Form Thesis addresses these point. It says that this framework, considered from the transcendental standpoint, is mind-dependent (it does not exist independent of what Kant calls our pure intuition), and that all and only objects of our outer intuition are in space.

In Chapter 1, I also address the question of how Kant argues for the Form Thesis. In contrast to other commentators, I claim that Kant’s argument for the Form Thesis rests crucially on *conceptual analysis* (as opposed to epistemological considerations, or considerations about geometrical cognition or spatial perception). I argue that Kant arrives at the Fundamental Conception by analyzing our “given” concept of space, and that the Fundamental Conception is the linchpin of Kant’s demonstration of the *apriority* of the concept of space. As I show, in attempting to

demonstrate truths about the nature of space by analyzing the concept of space, Kant is following the lead of the major philosophers of his day, Christian Wolff, Alexander Baumgarten, and Christian Crusius.

In Chapters 2, 3, and 4, I address the third question. As I argue, the Form Thesis is not Kant's last word on the metaphysics of space in the *Critique*. In the Transcendental Analytic, Kant *adds* to his initial account of the nature of space with an account of the ontological grounding of various properties of space (in particular, unity and manifoldness) and of spatial objects and places (in particular, figure, magnitude, and location). Insofar as my reading construes Kant's claims about space as ontological in nature, it differs from the Epistemological Extension Reading described above. Insofar as my reading construes Kant's later claims about space as an elaboration of the Form Thesis – an answering of certain questions that it leaves open – it differs from the Re-Reading Reading.

As I argue, this metaphysics of space has a realist and an idealist side. The realist side of Kant's metaphysics of space explains the properties of regions of space in terms of the properties of objects that occupy those regions. By contrast, the idealist side explains various properties of space and spatial objects in terms of the features of a discursive *understanding*. In Chapter 2 I explore Kant's idealist account of the *unity and manifoldness of space*. In Chapter 3, I present Kant's idealist *and* realist accounts of the *figure and magnitude* of spatial objects. In Chapter 4, I lay out Kant's idealist *and* realist accounts of *spatial location*.

4. The Bigger Picture

The interpretation of Kant's Form Thesis that I argue for in this dissertation runs directly counter to two widespread trends in recent Kant scholarship. The first is a tendency to view Kant as an arch-epistemologist – a philosopher who is interested above all in explaining how we can know the external world, and who regards metaphysical questions as anathema. The most influential (and radical) proponent of this reading is Henry Allison, but it has many other adherents. By contrast, I argue that, far from eschewing metaphysics, the author of the *Critique of Pure Reason* provides his readers with a rich and elaborate metaphysics of space – one that has both a realist and an idealist side.

The second is a complementary tendency to downplay the continuity between Kant's pre-Critical and Critical views. Many commentators act as though the philosophical questions that interested Kant in his early career, as well as the philosophical positions that he adopted, are somehow incommensurable with the Critical philosophy. By contrast, I argue that there is substantial overlap between Kant's pre-Critical and Critical views, at least when it comes to the question about what space is. From the period of Kant's earliest publications to late in the Critical period, Kant takes there to be a fundamental connection between space, co-existence, and community. Though he changes his mind about how these are connected, he continues to believe that the concepts of community and co-existence are inextricably linked to the concept of space, even after he has adopted the Form Thesis. Indeed, if I

am right, Kant's argument for the Form Thesis relies on the same considerations about space, community, and co-existence that occupied him at the earliest phase of his career.

Chapter 1: The Concept and Ontology of Space

“Either space contains the ground of the possibility of the compresence of many substances and their relations, or these contain the ground of the possibility of space” (Ak. 17:293)

“The order of things which are next to one another is not space, but space is that which makes possible, according to determinate conditions, such an order, or better, coordination” (Ak. 17:639)

“Space makes community possible.... Space is itself the phaenomenon of possible community” (Ak. 23:31–32)

1. Introduction

Kant’s main argument for the Form Thesis begins in a section of the Transcendental Aesthetic entitled the “Metaphysical Exposition of the Concept of Space” (the MECS).¹ The MECS consists of four arguments, the first two of which are generally assumed to have as their immediate conclusion the claim that our concept of space is *a priori*, while the second two are generally assumed to have as their immediate conclusion the claim that this concept has its origin in a pure intuition: an immediate, singular, non-empirical representation.² As the name of the section suggests, these arguments rest on a “metaphysical exposition of the concept of

¹ This label is only used in the 1787 edition (the so-called B-version) of the *Critique*.

² For the characterization of an intuition as an immediate, singular representation, see A320/B377. The object of a *pure* intuition, as I will explain in Chapter 2, is a unitary, spatial whole.

space.”¹ An exposition, for Kant, is an analysis of a *given concept* – a concept whose content is not generated by us.² As Kant writes, “I understand by exposition (expositio) the distinct [*deutliche*] (even if not exhaustive [*ausführliche*]) representation of that which belongs to a concept.” A *metaphysical* exposition, in turn, is an exposition “which exhibits [*darstellt*] the concept as given *a priori*” (B37–38). In the MECS, the given concept at issue is that of space.

The first of the four arguments of the MECS runs as follows:

Space is not an empirical concept that has been drawn from outer experiences. For in order for certain sensations to be related to something outside me (i.e., to something in another place [*Orte*] in space from that in which I find myself), thus in order for me to represent them as outside and next to one another, thus not merely as different but as in different places [*Orten*], the representation of space must already be their ground. Thus the representation of space cannot be obtained from the relations of outer appearance through experience, but this outer experience is itself first possible only through this representation. (B38)

This passage is of particular importance for at least two reasons. First, the argument presented here represents a crucial first step in Kant’s overall argument for the Form

¹ Notwithstanding the massive attention the arguments in the MECS have received, commentators have had surprisingly little to say about what a metaphysical exposition is. One notable exception is Falkenstein (*Kant’s Intuitionism*, 148ff.), who recognizes and stresses that the MECS relies on a kind of conceptual analysis. My account of the method of the MECS is similar to his in certain respects, though I disagree with him about the results of Kant’s conceptual analysis and how they bear on the ontological question “what is space?” Whereas Falkenstein thinks that the MECS has no immediate implications for the ontology of space (148), and claims that conceptual analysis yields only a relatively trivial characterization of space (“it is a form of ordering” [153]), on my view, Kant squeezes some significant ontological conclusions out of conceptual analysis.

² That the target of an exposition is a *given concept* is clear from the following remark in the *Jäsche Logic*: “Exposition occurs only with given concepts, then, which are thereby made distinct; it is thereby distinct from declaration, which is a distinct representation of concepts that are made” (Ak. 9:143). The identification of exposition with *analysis* of a given concept is supported by, among other texts, the following passage in the “Doctrine of Method” section of the *Critique of Pure Reason*: “Philosophical definitions come about only as expositions of given concepts, but mathematical ones as constructions of concepts that are originally made, thus the former come about only analytically through analysis [*Zergliederung*] (the completeness of which is never apodictically certain), while the latter come about synthetically, and therefore make the concept itself, while the former only explain it” (A730/B758).

Thesis. Unless Kant can show that our concept of space is *a priori*, he cannot show that space is the form of our outer intuition. Second, the argument is of considerable philosophical interest in its own right, apart from its relation to Kant's specific philosophical goals. Among followers of P.F. Strawson, the argument is widely thought to rest on the "Kantian Thesis"³ that space is a necessary condition of objective experience. The Kantian Thesis has attracted considerable attention in recent years, in part because of Strawson's provocative discussion of the relationship between objectivity and space in Chapter 2 of *Individuals*. In light of Strawson's discussion, a number of prominent contemporary philosophers have sought to develop and defend what Strawson takes to be one of Kant's most important insights – the insight that, as Gareth Evans puts, there is a "connection between the idea of an objective world and the idea of a spatial world."⁴

However, in spite of the first metaphysical exposition's systematic importance and the widespread sympathy for (what is widely assumed to be) its main premise, there is remarkably little agreement about how to understand the argument. According to one common line of interpretation, influenced by Strawson's work, and given its most convincing formulation by Henry Allison,⁵ Kant's argument turns on considerations about the role of the representation of space in the individuation of objects. On this reading, outer experience presupposes the representation of space

³ Evans, "Things Without the Mind," 250. See also Cassam ("Space and Objective Experience," 258ff.) for discussion of the various possible meanings of the Kantian Thesis, and a defense of an interpretation similar in spirit to Henry Allison's.

⁴ Evans, "Things Without the Mind," 249. This remark is cited in Cassam, "Space and Objective Experience," 261.

⁵ Henry Allison, *Kant's Transcendental Idealism: An Interpretation and Defense* [*Kant's Transcendental Idealism* (1983)] (New Haven: Yale University Press, 1983), 82–86.

because, without it, we would not be able to distinguish between objects distinct from each other and from us.⁶ According to a quite distinct line of interpretation, developed (in somewhat different ways) by Daniel Warren and Lorne Falkenstein, the first metaphysical exposition turns, not on a general claim about the role that the representation of space plays in grounding knowledge of an objective world, but rather on special considerations about how we cognize *spatial relations*.⁷ Kant, for Warren and Falkenstein, is arguing that it is not possible to derive the concept of space by perceiving spatial relations among bodies, because one must represent bodies as located *before* one can represent spatial relations among them; for this reason, they argue, the representation of space cannot be drawn from experience.

As I shall argue in this chapter, there are considerable textual and philosophical problems with both of the above lines of interpretation, which share the assumption that Kant is *not* engaged with questions about the ontology of space in the MECS. A more plausible reading – one which challenges this shared assumption – is suggested by an examination of the historical context in which Kant’s argument developed. Of particular relevance is a debate between Christian August Crusius, Christian Wolff, and Alexander Baumgarten. This debate concerned the proper exposition of the concept of space. In the ontology section of his *Sketch of the Necessary Truths of Reason*, Crusius attacks the Wolffian definition of space as “the order of co-existent things mutually posited outside of each other.”⁸ Nevertheless, Crusius shares with the

⁶ Allison, *Transcendental Idealism* (1983), 83.

⁷ Falkenstein, *Kant’s Intuitionism*, 160–172 and Warren, “Kant and the Apriority of Space,” 179–224.

⁸ This is Baumgarten’s formulation. See *Metaphysics* §239, 102. A partial translation of this work, along with two other works that I discuss here, Wolff’s *Rational Thoughts on God, the World and the*

Wolffians the assumption that the true nature of space can be gleaned from conceptual analysis. What emerges from Crusius's analysis of the concept of space is a definition according to which space is "the possibility of the co-existence of substances next to each other."⁹

As I shall show, there is good reason to think that Kant largely shares Crusius's views about the proper analysis and exposition of the concept of space, including Crusius's criticism of the Wolffians. There is also good reason to think that Kant is consciously drawing on these conceptual insights in the first metaphysical exposition, that is, in the first argument for the *apriority* of the concept of space in the MECS. Considered in light of the debate between Crusius and the Wolffians, the nature of Kant's argument becomes clear. At the heart of the first metaphysical exposition is not a general epistemological claim about the role that the representation of space plays in individuation and objective knowledge, nor special considerations about the manner in which we perceive spatial relations, but rather a broadly ontological claim about what sort of a thing space is. Kant's immediate opponents in the first metaphysical exposition are the Wolffians, who define space as the order of things outside of one another. For Kant, by contrast, space is a framework that makes it possible for whatever substances exist in it to interact, and thus to *co-exist*, with one another. I call this claim, which is unmistakably metaphysical in character, Kant's

Soul of Human Beings, Also All Things in General [German Metaphysics], and Crusius's *Sketch of the Necessary Truths of Reason [Sketch]*, is available in Eric Watkins, *Kant's Critique of Pure Reason: Background Source Materials* (Cambridge: Cambridge University Press, 2009). In cases where I cite passages that Watkins has translated, I give a page reference to Watkins' translation following the title and section number of the work and a comma. I occasionally depart slightly from Watkins' translations (where these translations are available).

⁹ *Sketch* §59, 152.

Fundamental Conception of space. It is crucial to Kant's argument for the Form Thesis.

In addition to shedding light on Kant's first metaphysical exposition, comparison with Crusius also sheds light on the meaning of Kant's Form Thesis. As I shall argue, the Form Thesis arises in the context of Kant's attempt to account for the *objective validity* of our *a priori* concept of space, a philosophical task which presupposes the earlier demonstration of the *apriority* of the concept of space in the MECS. Just as, in the Transcendental Analytic, a transcendental deduction is necessary to defend the legitimacy of our application of the categories to objects of experience, so in the Transcendental Aesthetic a transcendental deduction is necessary in order to defend the legitimacy of our application of the pure concept of *space* to objects of experience. Kant distinguishes himself from Crusius, who dogmatically accepts the unrestricted validity of the concept of space, by asking how the *a priori* concept of space, which precedes all experience, could nevertheless be objectively valid with respect to objects of experience. Kant puts forth the Form Thesis as an answer to this question. An important consequence of the Form Thesis is that it is illegitimate to extend the *a priori* concept of space to objects that cannot be given in experience. Considered as designed to address a normative question about the concept of space that Crusius fails to ask, Kant's Form Thesis takes on new significance.

In §2, I present the individuation reading of the first metaphysical exposition and argue that it is inadequate. In §3, I do the same for the spatial relations reading. In §4, I situate the first metaphysical exposition in what I take to be its proper historical

context: the debate between Crusius and the Wolffians about the proper definition of the concept of space. In §5, I show that Kant sides with Crusius in the above debate. In §6, I point out some differences in Kant and Crusius's views of space. In §7, I reconstruct the first metaphysical exposition in light of this historical context. In §8, I show how Kant draws on considerations about the validity of our *a priori* concept of space to argue for the Form Thesis, and I explain what I take this thesis to amount to. In §9, I draw on the results of this chapter to pose the questions that will be answered in subsequent chapters.

2. The Individuation Reading of the First Metaphysical Exposition

2.1. Strawson and the Role of Space in Reidentification

Notwithstanding its avowedly ahistorical nature, Strawson's discussion of the relationship between space and objectivity in *Individuals* has been the starting point for several noteworthy Anglo-American treatments of Kant's first metaphysical exposition. In Chapter 2 of *Individuals* Strawson attempts to justify and explain the Kantian claim that space is a condition of the possibility of experience by analyzing the conceptual preconditions for our notion of objectivity. His argument proceeds in four stages. He argues first that the notion of objectivity presupposes the notion of existence unperceived. He argues second that the notion of existence unperceived presupposes the capacity to reidentify objects. Next, he argues that the capacity to reidentify objects presupposes a capacity to distinguish between qualitative and

numerical identity. Finally, he argues that the capacity to distinguish between qualitative and numerical identity presupposes a spatial-temporal framework.¹⁰

Strawson famously entertains the possibility of a “sound world” to determine whether or not reidentification of objects is possible in a world absent some spatial-temporal ordering.

Strawson’s “sound world” figures quite prominently in the Kant commentaries of Jonathan Bennett and T.E. Wilkerson,¹¹ among others, notwithstanding the absence of such a concept from the pages of the *Critique of Pure Reason*. These commentators attempt to reconstruct Kant’s arguments for the *apriority* of space in light of the thought, given crisp and clear expression by Strawson, that the reidentification of objects requires a representation of space. According to Strawson, without representing objects in a space-like framework, it is not possible to distinguish between two appearances of a numerically identical object, and two appearances of distinct, but qualitatively identical, objects. Further, without the capacity to distinguish between numerical and qualitative identity, it is not possible to make sense of existence unperceived, which in turn is required in order to conceive of one’s experience as objective. It is because of the conceptual dependence of objectivity on space, according to these commentators, that Kant concludes that the representation of space is *a priori*.

¹⁰ Strawson, *Individuals*, 58–74. For a helpful discussion of Strawson’s argument, see Jonathan Bennett, *Kant’s Analytic* (Cambridge: Cambridge University Press, 1966), 33–44.

¹¹ Bennett, *Kant’s Analytic*, 33–41 and T.E. Wilkerson, *Kant’s Critique of Pure Reason: A Commentary for Students [Kant’s Critique of Pure Reason]* (Oxford: Clarendon Press, 1976), 24–25.

However, in addition to some philosophical problems with the line of argumentation presented in Chapter 2 of Strawson's *Individuals*,¹² it is highly problematic as a reconstruction of Kant's first metaphysical exposition. It would be an understatement to say that Strawson's argument does not obviously resemble Kant's line of argumentation in the Transcendental Aesthetic. For one thing, Strawson's argument is couched in the form of an attempt to identify necessary features of our *conceptual* scheme, in particular, the conceptual preconditions for objectivity. Strawson self-consciously eschews ontological questions. However, in Kant's explanation of the nature of a metaphysical exposition, which immediately precedes the first metaphysical exposition, he explicitly takes aim at an ontological question:

Now what are space and time? Are they actual beings? Are they only determinations or relations of things, yet ones that would pertain to them even if they were not intuited, or are they relations that only attach to the form of intuition alone, and thus to the subjective constitution of our mind, without which these predicates could not be ascribed to any thing at all? (A23/B37)

Moreover, in contrast to Strawson, who takes as his starting point the concept of *objectivity*, Kant takes the concept of *space* as his starting point. It is by investigating the concept of space that Kant seeks to answer the ontological questions he has posed:

In order to instruct ourselves about this, we will first explicate [*erörtern*] the concept of space. I mean by exposition [*Erörterung*] (*expositio*) the distinct (even if not complete) representation of that which belongs to a concept; the exposition however is metaphysical, however, when it contains that which exhibits [*darstellt*] the concept as *a priori* given. (A23/B38)

¹² For some powerful objections, see Evans, "Things Without the Mind," 253–261. See also Bennett, *Kant's Analytic*, 36–44.

If we are to take Kant at his word, his starting point is the concept of *space*. His strategy is to provide a distinct representation of that which belongs to the concept; by doing this, he hopes to be able to show that the concept is given *a priori*. (Of course, how exactly an analysis of the concept of space could result in knowledge of its *a priori* or *a posteriori* status remains to be seen.) Strawson, by contrast, starts with the concept of objectivity and argues backwards from it *to* the concept of space, which he takes to be a conceptual precondition on the idea of objectivity.

In addition to the aforementioned textual problems with reconstructing Kant's first metaphysical exposition along the lines of Strawson's discussion in *Individuals*, there are at least three further problems. First, it is not clear why showing that the concept of space is a necessary feature of our conceptual scheme is sufficient to prove that the concept of space has an *a priori* origin, particularly in the apparently robust sense that Kant intends this claim: our concept of space does not arise from sensory experience. Indeed, in other texts, Strawson suggests that the necessity of the idea of space *is* compatible with the idea's having a genesis in the experience of actual relations among bodies.¹³ Second, Strawson's reconstruction appears to be incompatible with the possibility of creatures that do not represent space and time, a possibility that Kant conspicuously leaves open. If spatiality is essential to objectivity, as Strawson argues, it seems to follow that all beings who are capable of objective thought must experience the world spatially.¹⁴ But Kant does not think we can know

¹³ See, e.g., Strawson, *The Bounds of Sense*, 66.

¹⁴ In fact, Strawson explicitly draws this conclusion. See P.F. Strawson, "Kant's New Foundations of Metaphysics," in *Entity and Identity and Other Essays* (Oxford: Oxford University Press, 1997), 232–243.

that all discursive creatures necessarily have space and time as their forms of intuition.¹⁵ Moreover, Kant is committed to the possibility of a creature with an *intuitive* intellect and no forms of intuition whatsoever: namely, God. While Kant would surely say that God’s experience is objective – objects necessarily conform to God’s thinking, because He creates objects and their properties in the very act of thinking them¹⁶ – God’s experience is completely non-spatial. All of these considerations suggest that Kant would strongly resist Strawson’s claim that the concept of objectivity depends on the concept of space.

2.2. Allison’s Individuation Reading

While a reconstruction of the first metaphysical exposition modeled too closely after Chapter 2 of *Individuals* is implausible, there is a closely related line of interpretation that avoids some of the above shortcomings. According to this interpretation, which I will call the individuation reading, the representation of space is a necessary condition of objective experience, because without it, we would be unable to distinguish between ourselves and external objects, and between different external objects. Though the individuation reading focuses on the conditions of *individuating* objects at a time rather than *reidentifying* objects over time, and does not purport to be analyzing the concept of objectivity, it nevertheless rests on a similar

¹⁵ As he writes: “It is also not necessary for us to limit the kind of intuition in space and time to the sensibility of human beings; it may well be that all finite thinking beings must necessarily agree with human beings in this regard (though we cannot decide this)....” (B72).

¹⁶ See B72, B135, and B138–139.

claim about the status of space as a fundamental ground of difference for objects.¹⁷ A great many Anglo-American commentators espouse this sort of reading, but Henry Allison offers the most fully worked out version of it in the first edition of *Kant's Transcendental Idealism*.¹⁸

As Allison interprets the argument, Kant is concerned to establish that space is an *epistemic condition* in the first metaphysical exposition. An epistemic condition, for Allison, is a non-logical, non-psychological condition that accounts for the objective validity of our knowledge of an objective world.¹⁹ Allison distinguishes epistemic conditions from ontological conditions, which are conditions of the possibility of things-in-themselves. The representation of space is an epistemic condition, according to Allison, because the representation of spatial properties is necessary for one to distinguish an object from other objects and oneself.²⁰ Because the validity of outer experience requires the representation of space, Allison argues, the representation of space is *a priori*.

One motivation for such a reading is that it avoids attributing to Kant the tautologous claim that “the representation of space is necessary for the representation of space.”²¹ The individuation reading avoids this consequence by attributing an

¹⁷ See D.P. Dryer, *Kant's Solution for Verification in Metaphysics* (Toronto: Toronto University Press, 1966), 173; Allison, *Kant's Transcendental Idealism* (1983), 82–87; Guyer, *Kant and the Claims of Knowledge*, 346–347; Robert Hanna, *Kant and the Foundations of Analytic Philosophy* (Oxford: Clarendon Press, 2001), 219. It is also worth noting that a similar idea occurs in Strawson, *The Bounds of Sense*, 52 and Strawson, “Kant's New Foundations of Metaphysics,” 232–243.

¹⁸ Allison recants key elements of this interpretation in the most recent edition of his work. See Allison, *Kant's Transcendental Idealism* (2004), 101 and 466.

¹⁹ Allison, *Kant's Transcendental Idealism* (1983), 10.

²⁰ Allison, *Kant's Transcendental Idealism* (1983), 82–86.

²¹ Strawson thinks that Kant is relying on such a tautology in the first metaphysical exposition. See Strawson, *The Bounds of Sense*, 58.

ontological rather than a spatial sense to the term ‘outer’ (*außer*) in the argument’s second sentence.²² According to Allison, Kant’s claim is *not* that it is necessary to represent space in order to recognize things as spatial, but rather that it is necessary to represent space in order to recognize things as numerically distinct from one another and oneself.

The claim that ‘außer’ has an ontological sense in addition to its customary spatial sense is not without a historical and a textual basis. As Allison and other commentators note, the locution ‘outer sense’ was used by other philosophers of Kant’s time to indicate awareness of objects ontologically distinct from the subject of experience.²³ Moreover, this appears to be the sense in which Kant uses the locutions ‘outer sense,’ ‘outer intuition,’ and ‘outer experience’ in the *Critique*. (I will have more to say about this usage of ‘outer’ in Section 8.)

In addition, the individuation reading appears to be corroborated by Kant’s claims in the Amphiboly Chapter. There, Kant explicitly attacks Leibniz’s version of the principle of the identity of indiscernibles, according to which it is impossible for two things to share all the same inner properties while being numerically distinct. Kant asserts that just such a thing is possible in the case of appearances (i.e. the objects of our intuition)²⁴ and uses the example of two qualitatively identical drops of water existing in different places. As he writes, “the difference in place already makes the

²² See, e.g., Allison, *Kant’s Transcendental Idealism* (1983), 83 and Guyer, *Kant and the Claims of Knowledge*, 346.

²³ See Allison, *Kant’s Transcendental Idealism* (2004), 100–101 and Falkenstein, *Kant’s Intuitionism*, 161–163.

²⁴ In Section 8, I will explain why Kant calls these objects “appearances”.

multiplicity and distinction of objects as appearances not only possible in itself but necessary” (A272/B328).

While Kant concedes that objects of mere understanding, i.e. *noumena*, conform to the principle of the identity of indiscernibles, which means that their internal (monadic) properties suffice to individuate them from each other,²⁵ Kant denies that this principle holds with respect to appearances. In fact, given the nature of appearances, it *cannot* hold: appearances consist merely of relations, according to Kant (A285/B341). Internal properties cannot individuate appearances because they have no such properties. Instead, appeal to irreducibly relational properties, such as spatial and temporal location, is crucial for the individuation of appearances. On the face of it, Kant’s claims about individuation in the Amphiboly seem to fit well with the assumptions that Allison attributes to him in the first metaphysical exposition.

However, there are textual, philosophical, and systematic problems with Allison’s reading. A key textual difficulty concerns the sense of ‘außer.’ While Allison is correct that ‘außer’ admits of an ontological sense, and that Kant occasionally uses the term in this fashion (for instance, in the locutions ‘outer sense’ and ‘outer intuition’), the relevant passage clearly fixes the intended sense of ‘außer’ as spatial rather than ontological, as several Kant commentators have pointed out and Allison now concedes.²⁶ If this is right, then Kant cannot be saying that the

²⁵ Leibniz and Kant agree that spatial properties, like place, shape, and movement are merely *relational* – see, e.g., A274/B330.

²⁶ Warren, “Kant and the Apriority of Space,” 186; Falkenstein, *Kant’s Intuitionism*, 163–165; and Allison, *Kant’s Transcendental Idealism* (2004), 101.

representation of space is necessary in order to represent objects as numerically distinct.

Moreover, upon further reflection, Kant's claims about the role of space in individuation in the *Amphiboly* cannot provide support for Allison's reading of the first metaphysical exposition, since the *Amphiboly* presupposes and builds on conclusions from the *Aesthetic*, particularly, the Form Thesis. The goal of the *Amphiboly* is not to prove the latter, but rather to put it to use in a critique of the Leibnizian system. Furthermore, Kant's claim about the role of space in individuation in the *Amphiboly* is a *metaphysical* rather than an *epistemological* point: Kant is not saying that we must represent space in order to individuate objects (the claim that Allison attributes to him); rather, he is saying that relations of space, as a matter of metaphysical fact, constitute the basis for distinctions among appearances. Kant never says that *awareness* of difference in spatial position is a necessary condition of cognition of outer appearance. Finally, Kant's rejection of Leibniz's principle of the identity of indiscernibles in the *Amphiboly* calls attention to the fact that it would be question-begging for him simply to *assume* the falsity of this principle in the course of the first metaphysical exposition, as he would be doing on Allison's reading. For if Leibniz is correct that spatial relations supervene on the internal, monadic states of substances, then it is wrong for Kant to say that "the difference in place already makes the multiplicity and distinction of objects as appearances not only possible in itself but necessary" (A272/B328). Kant cannot simply take it for granted that objects are individuated by their location in space. If he is not to beg the question against

Leibniz's version of the principle of the identity of indiscernibles, he needs to provide a reason for thinking that the Leibnizian reduction of space to monadic properties of simple substances is not possible.

Furthermore, as Daniel Warren astutely points out, there is an important philosophical problem for the individuation reading: there is good reason to doubt whether the representation of spatial properties is truly necessary in order to distinguish objects. To distinguish this book from this chair, for instance, it is sufficient that I note their qualitative differences, such as their different colors. I need not note their different shapes, sizes, or positions in space. While the advocate of the individuation reading might respond that spatial position is the only *infallible* guide for distinguishing between two things, and so the only element that would allow one to distinguish between qualitatively identical replicas, it is not clear why this should show that the representation of space is a *necessary* condition for the individuation of objects. The mere chance that I might run into qualitative replicas someday (which Leibniz would deny is truly possible, to reiterate the above point) seems insufficient to show that outer experience presupposes the representation of space, in the apparently robust sense that Kant intends this claim.²⁷

Finally, there is a general problem with Allison's claim that Kant's argument for the *apriority* of the concept of space turns on the status of space as an epistemic condition. To repeat: an epistemic condition, as Allison defines it, is a non-logical, non-psychological condition that accounts for the objective validity of our knowledge of an objective world. It is because the representation of space is an epistemic

²⁷ Warren, "Kant and the Apriority of Space," 187–188.

condition, according to Allison, that it is *a priori*. Thus, for Allison, considerations about the normative character of the concept of space (its role in legitimating claims to knowledge as well as its own legitimacy as a concept) are crucial to the proof of its *apriority*.

But this is not how Kant proceeds elsewhere in the *Critique*. In the Transcendental Analytic, Kant's proof that we are in possession of pure concepts (i.e. categories) of the understanding – the Metaphysical Deduction – precedes any claims about the validity of these concepts or considerations about their role in grounding knowledge of an external world. These questions come to the fore only in the Transcendental Deduction, where Kant seeks to show that the categories are used legitimately when applied to objects of experience and used illegitimately when applied outside the bounds of experience. Kant's strategy for defending the legitimacy of the pure concepts in the Transcendental Deduction has a guiding principle: if it can be shown that they are subjective conditions of the possibility of experience, then their *a priori validity* with respect to objects of experience is vindicated (A94/B126). To sum up the whole process: first you show that we have *a priori* concepts. Next you ask whether and how *a priori* concepts could be valid, a question which arises (as Kant makes clear in his famous letter to Herz of February 21, 1772), because such concepts do not arise from causal affection by objects (as empirical concepts do), nor do they create their objects *a priori* by means of the will (as is the case with *a priori* moral concepts).²⁸ By Kant's lights, an *a priori* concept is objectively valid with respect to objects of experience if and only if it has its basis in some subjective form that makes

²⁸ See Ak. 10:129–135 and A92/B125.

possible experience. (I will have more to say about what a subjective form is in Section 8.) In the case of the categories, their status as what Allison calls epistemic conditions enters the picture at a comparatively late stage, after their *a priori* status has been demonstrated and it becomes necessary to account for their legitimacy.

Indeed, on closer inspection, the Transcendental Aesthetic proceeds in a manner analogous to the Transcendental Analytic. In the Aesthetic, Kant similarly separates claims about the *apriority* of the concept of space from claims about the validity of the concept of space and its role in making possible experience. The former occur in the MECS, but it is not until the section called “Conclusions from the Above Concepts” that Kant argues that the concept of space is normatively justified when applied to objects given in experience but illegitimately used when applied to things outside the bounds of experience. As is the case with the pure concepts of the understanding, Kant’s defense of the objective validity of the *a priori* concept of space requires showing that and how it serves as a subjective principle of objective experience.

In the Transcendental Deduction, Kant is explicit about the analogy between the question of the objective validity of the categories and the question of the objective validity of the concept of space:

With the *pure concepts of the understanding*, however, there first arises the unavoidable need to search for the transcendental deduction not only of them but also of space, for since they speak of objects not through predicates of intuition and sensibility but through those of *a priori* thinking, they relate to objects generally without any conditions of sensibility; and since they are not grounded in experience and cannot exhibit any object in *a priori* intuition on which to ground their synthesis prior to any experience, they not only arouse suspicion about

the objective validity and limits of their use but also make the *concept of space* ambiguous by inclining us to use it beyond the conditions of sensible intuition, on which account a transcendental deduction of it was also needed above. (A88/B120–121)

Just as the categories can be used illegitimately, in particular when they are used outside the bounds of experience, and for that reason require a transcendental deduction of their validity, the concept of space admits of an illegitimate use and for that reason requires a transcendental deduction of its legitimacy. What this suggests is that, contrary to Allison, Kant's proof of the *apriority* of the concept of space *precedes* the claim that it is an epistemic condition of experience. The latter claim is the result of a *transcendental deduction of the concept of space*. Such a deduction presupposes and builds on Kant's prior demonstration of the *apriority* of the concept of space. How exactly Kant's deduction proceeds requires further discussion (see Section 8 below), but the above suffices to show that Allison's reading puts the cart before the horse.

3. The Spatial Relations Reading

The individuation reading of the first metaphysical exposition, however, is not the only game in town. A very different reading, which I shall call the spatial relations reading, is fast becoming the new orthodoxy.²⁹ According to the spatial relations reading, the argument does not turn on a general epistemic claim about the putative dependence of objective experience on space, but rather on special considerations about the manner in which we cognize spatial relations. Daniel Warren and Lorne

²⁹ For examples, see Charles Parsons, "The Transcendental Aesthetic," in *The Cambridge Companion to Kant* (Cambridge: Cambridge University Press, 1992), 62–100 (68); Falkenstein, *Kant's Intuitionism*, 160–172; and Warren, "Kant and the Apriority of Space," 179–224.

Falkenstein both skillfully and cogently develop this sort of interpretation, though in subtly different ways. For this reason, I shall consider their readings separately below.

3.1. Warren's Version of the Spatial Relations Reading

According to Warren, the first metaphysical exposition does not involve considerations about the putatively necessary role of the representation of space in the individuation of objects, but rather about the relative priority of the representations of *place* and *space* to the representation of spatial relations. On Warren's version of the spatial relations reading, the argument is as follows:³⁰

(1') The representation of space is presupposed by the representation of objects as spatially related (namely, as spatially outside of me or outside of one another)

Therefore,

(2) The representation of space is not empirical

(1') in turn rests on the following:

(1a'): When we represent objects as spatially related (namely, as outside me or outside one another), we must represent them as occupying places or regions in space

(1b'): The representation of space is presupposed by the representation of objects as occupying places or regions in space

On Warren's view, Kant's argument is first and foremost a response to Leibniz.³¹ He takes (1a') in particular to express a position directly contrary to the one that Leibniz advocates in the fifth letter of the *Leibniz-Clarke Correspondence*, where

³⁰ For the following, see Warren, "Kant and the Apriority of Space," 197 and 202.

³¹ Warren, "Kant and the Apriority of Space," 205. See also Allison, *Kant's Transcendental Idealism* (2004), 102.

Leibniz seems to be saying that the representation of place is something that we abstract from (prior) representations of bodies as spatially related.³²

It is an important strength of Warren's spatial relations reading that it avoids reducing the main claim of the first metaphysical exposition to a triviality, while seeming to fit the letter of the text. Kant does, after all, speak of representing spatial relations in the passage – for example, he writes, “in order for me to represent them as outside and next to one another” – and he seems to be making some sort of connection between representing spatial relations and representing different places. Moreover, the last sentence of the passage appears to contain a succinct formulation of the claim that Warren wishes to attribute to Kant: “Thus the representation of space cannot be obtained from the relations of outer appearance through experience, but this outer experience is itself first possible only through this representation” (A23/B38).

But Warren's reading also has a number of shortcomings. First, Warren fails to show that Kant has any good reasons for rejecting the Leibnizian view. On Warren's reconstruction, Kant simply assumes (without any basis) that the Leibnizian view is wrong.

Another problem is that Warren's reconstruction does not fit the text. On the most natural reading of the argument's second sentence, Kant is not saying that the representation of objects as outside and next to one another is posterior to the representation of objects as occupying distinct places. In the parenthetical remark and in the penultimate clause, Kant mentions things in different places in order to disambiguate the phrases ‘outside of’ and ‘next to one another’ – to make clear that

³² Leibniz, *Philosophical Essays*, 337–338.

they are to be understood in a spatial sense. Kant's point is that if talk of objects as outside and next to one another is to have a distinctively spatial sense, it can only mean that the objects occupy different places in space. That Kant holds this view is clear from a parallel discussion in the *Metaphysik Mrongovius* (transcripts from the lectures on metaphysics that Kant gave during the Critical period). As he says there, "things in different places [*Orten*] are posited outside one another" (Ak. 29:831). Crucially, Kant is not claiming that the representation of things as occupying places distinct from them and one another is *prior* to the representation of "things as outside and next to one another." Instead, Kant holds the (quite plausible) view that the representation of each requires the representation of the other: to represent things as spatially outside of one another requires representing them as in different places and vice-versa. Indeed, if Kant is a relationist about *place* – as I will argue in Section 6 – then he would deny that an object can occupy a place without standing in spatial and causal relations to other objects. Such a view seems to imply that we cannot represent an object at a place without representing its spatial and causal relations to other objects.

3.2. Falkenstein's Version of the Spatial Relations Reading

According to Lorne Falkenstein, the first metaphysical exposition rests on a denial that a representation of spatial relations could be derived from inspection and comparison of the "matters of intuition." In particular, Kant's key claim is that,

In order for us to be able to represent spatiotemporal relations, such as simultaneity, succession, or adjacency, among the matters of

appearance, these matters must first have been presented to us in a spatiotemporal *order*.³³

Kant's first metaphysical exposition is, by Falkenstein's lights, part and parcel of his defense of the doctrine of intuitionism: the view that spatial order is not constructed by operations of the understanding, but rather intuited immediately by the senses.

Intuitionism holds that objects must be *given* (prior to the operations of the understanding) as spatially arrayed, because if they were not given as spatially ordered, it would not be possible to determine their spatial relations.³⁴ Kant's targets in the first metaphysical exposition, for Falkenstein, are "sensationalist" accounts, such as Locke's, which attempt to derive the representation of spatial relations from comparison of simple sensations.³⁵ In contrast to the sensationalists, Falkenstein asserts, Kant is arguing that spatial order cannot be *derived* by perceiving relations among the matters of intuition. As Falkenstein writes: "It is an articulated experience of elements already arranged in order that comes first – and that serves as a ground of our perception of spatial relations."³⁶ For Falkenstein, the upshot of the argument is that our representation of spatial order is *a priori* in the sense that it is not derived from, and determined by, the manifold of empirical elements given in intuition.

However, Falkenstein's reading of the first metaphysical exposition is beset by a host of difficulties. First, Falkenstein is similar to Warren in that he claims that, for Kant, things must be given to us as having spatial locations relative to one another *before* we can represent the spatial relations that they stand in. For Falkenstein, the

³³ Falkenstein, *Kant's Intuitionism*, 170.

³⁴ I further discuss and criticize Falkenstein's ascription to Kant of "intuitionism" in Chapter 3.

³⁵ Falkenstein, *Kant's Intuitionism*, 165ff.

³⁶ Falkenstein, *Kant's Intuitionism*, 171.

“theme” of the first metaphysical exposition is spatio-temporal localization.³⁷ Kant is distinguishing between the *spatial order* of the matters of appearances – their locations with respect to one another – and the *spatial relations* of those matters. If Kant did not make this distinction, Falkenstein reasons, his argument would reduce to the trivial claim that it is necessary to represent spatial relations in order to represent spatial relations.³⁸ Since Kant *does* make this distinction, Falkenstein contends, he is making a quite substantive claim: appearances must be given as spatially ordered (i.e. localized) before we can discern the spatial relations that exist between them. Because of this, sensationalist attempts to derive the experience of spatial order from mental operations performed on non-spatial sensations are impossible.

But Falkenstein’s claim that Kant distinguishes between spatial location and spatial relations renders him vulnerable to the same objection that I leveled against Warren above: Kant is a relationist about place. This means, *inter alia*, that the place of a thing is a function of its spatial relations to other things. Determining the location of a thing requires determining the particular spatial relations it stands in with respect to other objects. *Pace* Falkenstein, Kant does not distinguish between the spatial order (or location) of appearances and their spatial relations to one another.

Second, Falkenstein’s reading has the disadvantage of drastically limiting the power of Kant’s argument. For Falkenstein, Kant’s argument is directed at a very narrow range of opponents: rather primitive sensationalist accounts of space. Kant’s argument has no force against the more sophisticated theories of spatial cognition that

³⁷ Falkenstein, *Kant’s Intuitionism*, 165.

³⁸ Falkenstein, *Kant’s Intuitionism*, 172.

developed in the mid-nineteenth century and which were inspired by Berkeley. Falkenstein candidly admits that Kant offers no principled reason for thinking that *no* account of the construction of spatial relations from an unordered, non-spatial manifold of sensation is possible. Falkenstein exculpates Kant for this, however, on the grounds that Kant had no way of foreseeing alternatives to the primitive sensationalist accounts of his day. But Falkenstein also concedes that Kant does not even, strictly speaking, offer an *argument* against the sensationalist accounts of his day. As he writes,

Kant does not present any independent, positive reasons for accepting his view. The First Exposition simply states that spatiotemporal relations cannot be apprehended unless the relata, sensations or perceptions, are presented in spatial and temporal order. There is no argument for this claim. It is presented simply as if it were an obvious fact of our experience. At the time Kant wrote, it may well have been. Locke's account of space- and time cognition had, as has been seen, tacit Kantian presuppositions. Leibniz was an ontological theory that did nothing to address the question of space and time cognition.³⁹

Before we accept a reconstruction of Kant's argument that involves Kant's giving no positive reasons for his view, the principle of charity dictates that we consider other alternatives. (In Section 7, I reconstruct the first metaphysical exposition in such a way that it amounts to a valid – and rather ingenious – argument.)

Third, Falkenstein's denial that the elements represented in space could be used to determine their relations with respect to one another is highly dubious. In at least one place, Kant explicitly says that appearances do play a determining role with respect to space. In the First Antinomy, Kant writes: "Thus things, as appearances, do determine space, i.e., among all its possible predicates (magnitude and relation) they

³⁹ Falkenstein, *Kant's Intuitionism*, 175.

make it the case that this or that one belongs to reality” (A431/B459).⁴⁰ On the face of it, this contradicts Falkenstein’s ascription to Kant of the claim that

things that are given as related to one another in space in appearances do not exhibit anything that grounds their spatiotemporal relations, so that our concepts of space and time, considered as concepts of relations, could not be supposed to be derived from these things, considered as relata.⁴¹

Indeed, Kant looks to be explicitly affirming here that appearances determine their spatial magnitude and relations to one another. Contrary to Falkenstein, appearances are not themselves “indifferent” to how they are ordered.

Finally, there is a general problem with Falkenstein’s reading, one which also infects other epistemological readings of the MECS. For Falkenstein (and Warren for that matter), the goal of the MECS is to lay out a theory of space cognition. Given that assumption, it is something of an embarrassment that Kant begins with an overtly ontological question (“What then are space and time?”), lays out four possible alternatives (substance; inhering accident; relations of substances; relations that attach to the constitution of the subject alone), and then says that an exposition of the concept of space will “instruct us” about this. What this suggests is that ontological considerations about space – rather than considerations about the cognition of spatial relations, or more general epistemological considerations about the role of space in

⁴⁰ This passage plays a key role in my (positive) account of Kant’s metaphysics of space. It will resurface again in section 9 and yet again in Chapter 4.

⁴¹ Falkenstein, *Kant’s Intuitionism*, 160.

objective knowledge – are at the forefront of Kant’s mind in the MECS.⁴² Noting the above textual problems, Falkenstein writes:

It is as if Kant embarks on a project of investigating the nature of space- and time-cognition without realizing that this is what he is doing, imagining instead that he is somehow still engaged with a question about the ontology of space and time.

But he continues, “...regardless of what Kant may say, the real purpose of the Expositions is not to answer the ontological question but to defend a certain picture of human cognition by proving that space and time are forms of intuition.”⁴³

While it is certainly not impossible that Kant was confused about the nature of his project in the MECS, we should not rule out the possibility from the start that the MECS has an ineliminable metaphysical component. Perhaps we can take Kant at his word.

4. The Historical Background: Crusius vs. the Wolffians on the Concept of Space

The problems which plague the spatial relations and individuation readings, as well as the *prima facie* evidence suggesting that Kant’s inquiry in the MECS is ontological in character, should lead us to question the common assumption on which both readings are based: that Kant’s argument turns on broadly epistemological considerations about our representation of space rather than ontological considerations about the thing that we think through the concept of space. An examination of the

⁴² With respect to Kant’s description of a metaphysical exposition, Falkenstein writes: “Reading this statement, one gets the impression that the ensuing paragraphs are to constitute an investigation into what space and time are” (Falkenstein, *Kant’s Intuitionism*, 147).

⁴³ Falkenstein, *Kant’s Intuitionism*, 148.

historical context of the argument provides further support for an ontological reading of Kant's first metaphysical exposition. As I shall show in this section, the MECS was written against the backdrop of a debate about the proper explication of the concept of space – a debate that would have been familiar to Kant's philosophically-informed readers but which is no longer familiar to us. I will first explain what was at issue in this debate and why it matters for the MECS. In subsequent sections, I use this historical context to illuminate the MECS.

The protagonists in the debate I am referring to were Christian Wolff and his follower Alexander Baumgarten, on the one side, and Christian Crusius on the other. The specific point at issue was the question of how the concept of space is to be explicated. But the debate also involved more general questions about the nature of analysis and its role in metaphysics.

4.1. The Wolffian Explication of Space

One of Wolff's goals in *Rational Thoughts on God, the World and the Soul of Man, and on All Things Whatsoever* (the so-called *German Metaphysics*) [1720] is to provide his readers with "distinct concepts" of all the things that are traditionally treated under the heading of "metaphysics."⁴⁴ According to Wolff, we render a concept distinct by analyzing it – that is, by finding the marks that belong to it and that distinguish it from other concepts. In the *German Metaphysics*, Wolff presents the results of his analysis of the concept of space after laying out some very general

⁴⁴ *German Metaphysics* Preface. See also *Rational Thoughts on the Powers of the Human Understanding and their Correct Use in the Cognition of Truth* (the so-called *German Logic*) §13 and §21.

metaphysical principles (such as the principle of sufficient reason) and explicating some very general metaphysical concepts (such as possibility, identity, similarity, ground, essence, and necessity):

What space is. Now when many things that exist at the same time and are not identical are represented as outside one another (§45), a certain order among them thereby arises [*entsteht*] such that when I take one of them as the first, I take another as the second, another as the third, yet another as the fourth, and so on. And as soon as we represent this order to ourselves, we represent *space* to ourselves. For this reason, if we do not want to consider the object differently from how we cognize it, we must take *space* to be the order of those things that co-exist. And thus no *space* can exist if things are not present to fill it, although it is still distinct from these things (§17).⁴⁵

According to Wolff, space is “the order of those things that co-exist.”⁴⁶ Since Wolff takes himself to be providing us with a distinct concept of space in this passage,⁴⁷ he must regard this as a statement of one of the marks that distinguishes space from other things.⁴⁸ Wolff’s strategy for finding this mark is to consider the circumstances in which we first form the concept of space, or as he puts it, in which we first *cognize* space.⁴⁹ According to Wolff, we form the concept of space when we observe many co-existing bodies and notice a “certain order” among them. This order of co-existence, then, is one of the marks of the concept of space. But it is not merely a mark of the

⁴⁵ *German Metaphysics* §46, 15.

⁴⁶ *German Metaphysics* §46, 15.

⁴⁷ That Wolff takes himself to be providing us with a distinct concept of space in this passage is clear from what he says in *Remarks on Rational Thoughts on God, the World and the Soul of Human Beings, Also All Things in General* §§20–21.

⁴⁸ For Wolff’s account of analysis and its role in acquiring distinct concepts of things, see the *German Logic* (esp. §§13–20).

⁴⁹ In the *German Logic*, Wolff describes the process of arriving at the distinct concept of time in similar terms: “It is also possible that one could get a distinct concept of time. For one can indeed cognize that which allows it to be distinguished from other things; however, most people only have an indistinct concept of it because they do not pay attention to what they actually find in their thoughts and in the visible world [*sichtbaren Welt*] that enables them to arrive at the cognition of time [*dadurch sie zur Erkenntniß der Zeit gelangen*]” (§21).

concept of space. For Wolff, the marks of the concept of space are features of space itself; to deny this would be “to consider the object differently from how we cognize it.”⁵⁰ In other words, conceptual analysis has ontological import. As Wolff sees it, he is giving us, in addition to a partial analysis of the concept of space, a partial explanation of space itself. This explanation is far from trivial; it implies that, *pace* the Newtonian view, space does not exist unless there are things present to fill it.

The above passage does not represent Wolff’s full account of space. In the next section, he defines ‘place’ as the unique mode of co-existence that each existing thing has with all other existing things.⁵¹ All existing bodies belong to an order of co-existence in virtue of the fact that each has a *place vis-à-vis* the others. Later in the *German Metaphysics*, Wolff argues that bodies are constituted by co-existing simple substances.⁵² Though they have no extension,⁵³ these simple substances “co-exist next to one another,” and thus each has its own place. For Wolff, the place of each body – its way of co-existing with the others – is determined by the places of the simple substances that constitute it. The place of each simple substance, in turn, is grounded in its internal states.⁵⁴ Since space is the set of all places (the set of ways in which things co-exist with one another), it follows that it, too, is grounded in the states of simple substances. Thus, space for Wolff can only be fully explained in terms of the states of simple substances. Nevertheless, the complete explanation of space has as its starting point the partial explanation of space as “the order of those things [i.e. bodies]

⁵⁰ *German Metaphysics* §46, 15.

⁵¹ *German Metaphysics* §47, 15.

⁵² *German Metaphysics* §§75–76, 17.

⁵³ *German Metaphysics* §81, 17.

⁵⁴ *German Metaphysics* §§593–594, 40.

that co-exist.”⁵⁵ For Wolff, to grasp this explanation is to have a distinct concept of space. Subsequent analysis only serves to make this concept exhaustive and complete.

At this point, it is important to note three important features of the analysis that Wolff employs in order to arrive at the distinct concept of space. First, it is compatible with a certain degree of empiricism.⁵⁶ Wolff uncovers marks of the concept of space by considering the experiences that first give rise to the concept. Second, the *analysans* employs concepts that are (i) more abstract (that is, less contentful) than the *analysandum*, and (ii) supposed to be contained inside the *analysandum*. Third, the *analysans* doubles as a partial metaphysical *explanation* of space. A key difference between Leibniz’s account of space in the fifth letter to Clarke and Wolff’s account in the *German Metaphysics* is that the latter has a *pure reductionist*⁵⁷ flavor. Unlike Leibniz, who takes spatial relations among bodies as explanatorily basic in the fifth letter to Clarke, Wolff seeks to explain, not just space, but spatial relations, in terms of an order of co-existence among non-spatial, simple substances.

Baumgarten, one of Wolff’s followers, shares his understanding of analysis, and largely takes over his account of space. In his *Metaphysics* [1739], Baumgarten defines space as “the order of co-existent things mutually posited outside of one another.”⁵⁸ Both Wolff and Baumgarten rely on the highly abstract concept of an “order of co-existence” in their expositions of the concept. The main difference

⁵⁵ *German Metaphysics* §46, 15.

⁵⁶ As we will see, this is also true of Crusius’s account of analysis.

⁵⁷ Graham Nerlich usefully distinguishes between pure and impure theories of reduction, the latter of which he finds in Leibniz’s correspondence with Clarke and the former of which he finds in Leibniz’s *Monadology*. See Graham Nerlich, *The Shape of Space* (Cambridge: Cambridge University Press, 1994), 11–18.

⁵⁸ *Metaphysics* §239, 102.

between their expositions is Baumgarten's inclusion of the phrase 'outside of one another' to qualify the sort of order that gives rise to space. Though he does not explain why he introduces this qualification, it is plausible to assume that Baumgarten is trying to correct an oversight on Wolff's part. While Wolff uses the phrase 'outside of one another' in his account of how we acquire the concept of space, he does not include it in his exposition. But if his method for analyzing the concept of space is to consider how we first form the concept, then since we need to represent things as outside of one another in order to form the concept of space, 'outside of one another' should be included in the exposition of the concept.

It is worth noting that in the early part of his career, Kant bought into the Wolffian idea that space could be reduced to an order of co-existence. Such a view is present, for instance, in the *Universal Natural History and Theory of the Heavens* [1755], where Kant writes, "attraction is without doubt an even so widely prevalent property of matter as the co-existence which makes space.... [*welche den Raum macht*]" (Ak 1:308). The pre-Critical Kant sought to distinguish his reductionist account of space from Wolff and Baumgarten's by placing a great deal of emphasis on real relations of mutual interaction among substances as the key to explaining spatial connectedness. (By contrast, Wolff maintains that all causal interaction among substances is merely *ideal*.) Thus, in *Thoughts on the True Estimation of Living Forces* [1747], Kant says that "when we analyze the concept of what we call place [*Ort*], we find that it suggests the actions of substances on one another" (Ak. 1:21). And in the same work he says later:

It is easy to show that there would be no space and no extension if substances had no force to act external to themselves. For without this force there is no connection, without connection, no order, and, finally, without order, no space. (Ak. 1:23)

Here, real reciprocal causal connections ground the special order of co-existence upon which space rests. Such an account leaves open the possibility that two or more entirely unconnected spatial networks could exist simultaneously – for instance, if the members of two distinct sets of mutually interacting bodies do not interact with each other, a possibility which Kant explicitly entertains.

One might think that Wolff, Baumgarten, and the early pre-Critical Kant, in their efforts to explain space in terms of an order of co-existence, were simply following Leibniz's lead. Indeed, in a number of texts, Leibniz advances what looks to be a *definition* of space as the order of co-existence. However, in none of these apparent definitions does Leibniz use the terms 'outside' and 'next to one another' to qualify the nature of the order among co-existents, as Baumgarten does. Moreover, there is room for considerable doubt about whether it is Leibniz's intent, as it was Wolff, Baumgarten, and the pre-Critical Kant's, to *explain* space in terms of an order among unextended substances. According to a more charitable interpretation of Leibniz, one which is supported by a number of key texts, space is not grounded in, and explained by, an ordered world of monads; rather, for Leibniz, space and time are the means by which God conceives of monads as belonging to the same world. In

other words, spatial and temporal relatedness make possible an order among monads, not vice versa.⁵⁹

Indeed, Kant himself, at least in the *Metaphysical Foundations of Natural Science* [1786], saw an important difference between Leibniz and the so-called “Leibnizian-Wolffians” with respect to their explanations of space. He writes:

Therefore, it was not Leibniz’s intention, so far as I comprehend, to explain space by the order of simple entities side by side, but rather to juxtapose this order as corresponding to space while yet belonging to a merely intelligible (for us unknown) world. (Ak. 5:507–508)

By contrast, the Leibnizian-Wolffians, in Kant’s eyes, *were* trying “to explain space by the order of simple entities side by side.”⁶⁰

4.2. Crusius’s Attack

The Wolffian account of space came under heavy fire in Crusius’s *Sketch of the Necessary Truths of Reason* [1745]. This work contains Crusius’s metaphysics, which he describes as the “fundamental science” that gives “the grounds of the possibility or necessity *a priori*” for the objects treated by other sciences.⁶¹ For Crusius, metaphysics must begin with ontology, whose aim is

partly to analyze [*zergliedern*] the general concept of a complete thing into the concepts that arise through analysis, partly to find [*erfinden*] from the general concepts that occur therein the determinations [*Determinationen*] that can be cognized from them *a priori*.⁶²

⁵⁹ For a defense of a reading along these lines, see James Messina and Donald Rutherford, “Leibniz on Compossibility,” *Philosophy Compass* 4/6 (2009): 962–997.

⁶⁰ For a rich analysis of the differences between Wolff and Leibniz’s positions, Donald Rutherford, “Idealism Declined: Leibniz and Christian Wolff,” in *Leibniz and His Correspondents*, ed. P. Lodge (Cambridge: Cambridge University Press, 2004).

⁶¹ *Sketch* Preface, 137, and *Sketch* §6.

⁶² *Sketch* §7.

In ontology, we begin with the concept of a complete actual thing – which we can attain through the sensory experience of any arbitrary existing thing⁶³ – and analyze it into the complex concepts of which it is composed until we ultimately arrive at the simplest concepts. In decomposing the concept of a complete actual thing in this way, we attain distinct concepts of the various features of complete actual things.⁶⁴ The ontologist is particularly interested in attaining distinct concepts of features which necessarily belong to all complete actual things, and which are fundamental, in the sense that they make possible other features of complete actual things.

Crusius and the Wolffians agree that analysis plays a crucial role in metaphysics. They also agree that conceptual analysis does not tell us merely about our concepts of things but also about the things themselves. But they otherwise have very different views about the nature of analysis and its proper role in metaphysics. Whereas the Wolffians begin their metaphysics with an analysis of some very abstract concepts, Crusius begins with a concept that is extremely contentful, the concept of a complete actual thing. Whereas the Wolffians think that an *analysans* should employ concepts that are more abstract than the *analysandum* and contained within it, Crusius does not think this is always the case. We can also use analysis to render concepts distinct that are too simple to contain any marks within them (and thus cannot themselves be analyzed). We do this by analyzing the complex concepts of which this simple concept is a part.⁶⁵ In such a case, the *analysans* employs concepts that are

⁶³ *Sketch* §9, 139: “Thus, whoever is attentive and acute enough can abstract the entirety of ontology from any actually present object that comes before our senses.”

⁶⁴ *Sketch* §7, 138.

⁶⁵ *Ibid.*

more contentful than the *analysandum* and which are not contained within it. Crusius calls the sort of distinctness that arises in this way “logical distinctness.”⁶⁶ The candidates for logical distinctness are the simplest ones; we render them logically distinct not by analyzing them but by analyzing more complex concepts, starting with the concept of a complete actual thing. By Crusius’s lights, the Wolffians’ failure to see that the simplest concepts – such as the concept of space –cannot be analyzed has led them to give some extremely muddled expositions of concepts. As he writes, they “weave and tangle [*sie flechten und wirren*] one [concept] in the other, and define first this through that, and then that through this.”⁶⁷

Towards the end of the ontology section of the *Sketch*, Crusius explains exactly what is wrong with the Wolffian explication of the concept of space:

If one says space is the order or manner in which several things co-exist next to one another, then one indeed defines a possible thing, but not that which we call space or *ubi*, according to the nature of the thing itself [*nach Veranlassung der Natur der Sache selbst*]. This is not in the least explained. And if one did not have a different concept of space due to nature, nothing could be thought along with these words. For the true concept of space already lies in the words ‘next to one another’; similarly, it also already lies in the fact that among the things whose order or whose mode of co-existence is supposed to constitute space one can have in mind nothing other than substances if one does not want to be ridiculous. For a piece of music or a meditation or a definition would otherwise be a space, because many things are next to one another in them. Pre-established harmony would likewise be a space, because it is the mode of co-existence between the body and soul. By contrast, if one also wanted to seek space only in the order of the co-existence of substances, that one is not defining space in its typical meaning is already clear from the fact that according to its usual concept one can also still attribute a *ubi* or a space to a simple

⁶⁶ *Sketch* §8, 139.

⁶⁷ *Sketch* §8.

substance, even if one represents it all by itself and cannot represent it in any other way.⁶⁸

The Wolffians have explicated *a* concept, but it is a concept that they themselves have invented. They have not explicated the true concept of space, or as Crusius sometimes calls it, the “given concept of space.”⁶⁹ For Crusius, this is evident from the fact that the Wolffian concept applies alike to musical pieces, meditations, and definitions – in each of which many things co-exist next to one another in some sense. In place of the concept of space given to us by nature, the Wolffians have substituted a less contentful (and thus, more general) one. For Crusius, this mistake reflects a general defect in the Wolffian approach to analysis.

The Wolffians might try to fix the problem of the over-generality of their exposition by specifying that space is an order of co-existing *substances*, each of which is outside of the others. However, this also fails to do justice to the true concept of space, since it has the counterintuitive consequence that, in a world containing a single such substance there would be no space. Another possibility would be for the Wolffians to try to specify a sense of ‘next to one another’ (or ‘outside of one another’) according to which the components of a piece of music are not next to one another, but the components of the order of co-existence constitutive of space are next to one another. The problem is that it is not at all clear how the Wolffians could do this; they cannot, for instance, say that the relevant sense of ‘next to one another’ is

⁶⁸ *Sketch* §49, 147. I first came across this passage in Desmond Hogan’s (unpublished) dissertation. However, as far as I can tell, Hogan does not link this argument up with Kant’s position in the MECS. Crusius’s argument is also discussed in Hatfield, “Kant on the Perception of Space [and Time],” 67 and in Darius Koriako, *Kants Philosophie der Mathematik* (Meiner Verlag, 1999), 59ff.

⁶⁹ See, for instance, *Sketch* §50, 147.

spatial, since this is the concept that they are trying to explain. If they were to include this qualification in their exposition (if they were to say, for example, “space is the order of co-existent things mutually posited spatially outside of one another”) the result would be patently circular.

For Crusius, we rely on our given concept of space when we grasp the spatial sense of the phrases ‘next to one another’ and ‘outside of one another.’ (This is what Crusius means when he says that “the true concept of space already lies in the words ‘next to one another.’”) ⁷⁰ It is this concept that we need to render distinct in order to understand what space is. Since the concept of space is simple, and thus only admits of logical distinctness, the way to render it distinct is to analyze the complex concepts of which it is a part. Crusius focuses in particular on the concept of existence, since he thinks that the concepts of space and time are part of this concept.

Based on his analysis of the concept of existence, Crusius offers two complementary explications of the concept of space. According to the first, space is “nothing other than that within which we think that substances exist and which remains in thought when we have abstracted from them that which relates uniformly to all substances that are in it.” ⁷¹ According to the second, “space is the possibility of the co-existence of substances next to one another that is distinct from the power of their efficacious causes.” ⁷² Crusius thus regards space as a framework that (i) contains all

⁷⁰ *Sketch* §49, 147.

⁷¹ *Sketch* §48, 146.

⁷² *Sketch* §59, 152. In saying that “space is the possibility ... *that is distinct from the power of their efficacious causes*” (my emphasis), Crusius seems to mean that space is an inefficacious ground of possibility, rather than an efficacious one. An inefficacious ground is one that brings about a given effect (or the possibility of the effect) in accordance with its existence alone; for that reason, it is also called an existential ground. See *Sketch* §36, 144.

finite substances; (ii) is ontologically prior to finite substances; and (iii) grounds the possibility of the co-existence of substances next to one another. As he writes, “even if before the world nothing other than God had existed, the possibility had still been there that finite things could exist next to one another.”⁷³ Crusius uses the term ‘possible space’ to denote the object of our given concept of space, which is characterized by (i)-(iii).⁷⁴ He relies on further conceptual analysis to show that possible space is (iv) infinite in scope and (v) made up of absolute places.⁷⁵ He contrasts possible space with “actual space” – space insofar as it is occupied by actual finite things. Actual space is finite in scope and made up of relative places. Crusius takes his conceptual analysis to imply that possible space is neither a substance, a relation, or an accident, the traditional three alternatives. Rather, space is “an abstraction of existence.”⁷⁶ Because Crusius holds that the concept of (possible) space is part of the concept of existence, he takes the following to be a necessary truth: “everything that exists must be somewhere.”⁷⁷

4.3 The Connection with the MECS

Kant was undoubtedly familiar with this debate, and with the positions of its protagonists. He relied on Baumgarten’s *Metaphysics* as a textbook for his lectures on metaphysics; he grapples with various doctrines from Crusius’s *Sketch* and Wolff’s *German Metaphysics* in a number of pre-Critical texts. Moreover, there is good reason

⁷³ *Sketch* §59.

⁷⁴ *Sketch* §51 and §356, 170–171.

⁷⁵ *Sketch* §51, 148 and *Sketch* §52, 148–149.

⁷⁶ *Sketch* §51, 148.

⁷⁷ *Sketch* §48, 146.

to think that Crusius and the Wolffians' views about the distinct concept of space were at the forefront of Kant's mind when he wrote the MECS. As we have seen, the arguments of the MECS rest on the results of conceptual analysis; Kant purports to be providing us with a *distinct concept* of space. It would have been extremely irresponsible if Kant had failed to take into account what the major philosophers of his time had said about this topic. Kant would have had especially good reason to consider the views of Crusius, since like Crusius, Kant considers and rejects the traditional three answers to the question "what is space?"⁷⁸ In addition, Kant's understanding of the positive role of conceptual analysis in metaphysics and its impotence in the field of mathematics was greatly shaped by Crusius's views on this score.⁷⁹ Indeed, Kant explicitly acknowledges his debt to Crusius in the *Inquiry* [1764],⁸⁰ in which he anticipates the account of philosophical method that he later puts to work in the MECS.

As soon as we start considering the MECS with this debate in mind, it is not difficult to find echoes of it; it is also not difficult to tell which position Kant is more sympathetic to. Like Crusius, Kant's starting point is the "given concept" of space. Like Crusius, Kant thinks that conceptual analysis reveals space to be infinite and ontologically prior to the things in it. With regard to the latter point, consider the similarity between the following two statements: "Space, according to its primary

⁷⁸ Sketch §51, 148.

⁷⁹ See Heinz Heimsoeth, *Studien zur Philosophie Immanuel Kants* (Kölner Univ.-Verlag, 1956), 136ff. for a discussion of the ways in which Crusius's claims about philosophical method anticipate Kant's own. See also G. Tonelli, "Vorwort," in *Anweisung vernünftig zu leben* (Hildesheim, 1969), and Ernst Cassirer, *Das Erkenntnisproblem in der Philosophie und Wissenschaft der neueren Zeit*, Bd.2 (Berlin: B. Cassirer, 1907), 532ff. for a general discussion of the similarities between Kant and Crusius.

⁸⁰ Ak. 2:294.

concept, is nothing other than that within which we think that substances exist and which remains in thought when we have abstracted from them” (Crusius §48). “One can never represent that there is no space, though one can very well think that there are no objects to be encountered in it” (Kant A24/B38).

In the next two sections, I determine the points of agreement and disagreement between Crusius and Kant with regard to the question of how the concept of space is to be explicated. Subsequently, I draw on these sections to answer the question of what knowledge of space is at issue in the MECS and to reconstruct the first argument.

5. Kant’s Agreement With Crusius

There can be little doubt that Kant agreed with Crusius’s main objection to the Wolffian view of space. Kant presents much the same objection in the *Metaphysik Mrongovius*:

The author [i.e. Baumgarten] explains space through the order of things posited outside of one another. Things in different places are posited outside of one another. The concept of place presupposes the concept of space, and the concept is accepted as already familiar: the order of many things, insofar as they exist after each other, is time; to be successive is to be at different times, thus the same is explained through the same. (Ak. 29:831)

Kant is here assuming that Baumgarten is using the phrase ‘outside of one another’ in a specifically spatial sense – the sense of the term which licenses the inference from ‘these things are outside of one another’ to ‘these things are in different places.’ This is a reasonable enough assumption, since as Crusius pointed out, if phrases like this are not being used in the Wolffian exposition in a specifically spatial sense, the result

is too general, applying alike to spaces, pieces of music, meditations, and definitions. The problem is that, when it is made clear that ‘outside of one another’ is being used in a specifically spatial sense, the exposition is patently circular. The result would look like this: “space is the order of things mutually posited spatially outside of one another.” The term ‘space’ occurs on both sides of the exposition. “[T]hus the same is explained through the same,” as Kant says (Ak. 29:831). Crusius had made exactly the same point.

Kant also agrees with much of Crusius’s positive account of space. Like Crusius, Kant thinks that space is a framework that (i) consists of many places⁸¹ and (ii) is ontologically prior to the things in it. Indeed, Kant takes (i) and (ii) to follow immediately from an analysis of the given concept of space. He reiterates (i) and (ii) in the *Metaphysik Mrongovius*: “Our understanding supposes: [Space] precedes all things, it is viewed as an all-encompassing receptacle, containing nothing except places of things” (Ak. 29:830). Though Kant does not say here explicitly that we arrive at this understanding of space through an analysis of the given concept of space, this is a view that he explicitly endorses in the *Inquiry* [1764].⁸² There is no reason to

⁸¹ In saying that space, for Kant, consists of places (that is, the parts of space are places), I do not mean to deny that it is also Kant’s view that the whole of space is in some sense prior to its parts (see, e.g., A438/B466). These views complement one another, or so it seems to me.

⁸² Nowhere is this more evident than in the following passage: “But the most important business of higher philosophy consists in seeking out these indemonstrable fundamental truths; and the discovery of such truths will never cease as long as cognition of such a kind as this continues to grow. For, no matter what the object may be, those marks which the understanding initially and immediately perceives in the object constitute the *data* for exactly the same number of indemonstrable propositions, which then form the foundation on the basis of which definitions can then be drawn up. Before I set out on the task of defining what space is, I clearly see that, since this concept is given to me, I must first of all, by analyzing it, seek out those marks which are initially and immediately thought in that concept. Adopting this approach, I notice that there is a manifold in space of which the parts are outside of one another [*darin vieles außerhalb einander sei*]. I notice that this manifold is not constituted by substances, for the cognition I wish to acquire relates not to things in space but to space itself; and I notice that space can

think that he has abandoned it by the time of the *Metaphysik Mrongovius* (especially since Kant does not offer any other support for the characterization of space that he offers here).

In addition, Kant comes very close to endorsing Crusius's claim that space is "the possibility of the co-existence of substances next to one another."⁸³ In two pre-Critical reflections, Kant distinguishes between two ways of conceiving the relationship between space and relations among things:

Either space contains the ground of the possibility of the compresence of many substances and their relations, or these contain the ground of the possibility of space. (Ak. 17:293)⁸⁴

The order of things which are next to one another is not space, but space is that which makes possible, according to determinate conditions, such an order, or better, coordination. (Ak. 17:639)⁸⁵

Kant obviously has the Wolffians in mind when he discusses the claim that space is made possible by "the compresence of many substances and their relations," or put slightly differently, "the order of things which are next to one another." The alternative position that Kant presents in the first passage – "space is the ground of the possibility of the compresence of many substances and their relations" – sounds

only have three dimensions etc. Propositions such as these can well be explained if they are examined *in concreto* so that they can come to be cognized intuitively; but they can never be proved. For on what basis could such a proof be constructed, granted that these propositions constitute the first and the simplest thoughts I can have of my object, when I first call it to mind" (Ak. 2:281).

⁸³ *Sketch* §59, 152.

⁸⁴ According to the editors of the Akademie-Ausgabe of Kant's works, this reflection was written sometime between 1764 and 1769.

⁸⁵ This reflection was written on a letter that Kant received in 1774, which makes it likely that it was written around that time.

strikingly similar to Crusius's claim. So, too, does the view that he endorses in the second passage.⁸⁶

We find Kant making very similar claims in the *Critique*. In the Paralogisms Chapter, for instance, Kant characterizes space as a “a representation of a mere possibility of being together [*Beisammenseins*]” (A374). As I interpret this remark, Kant is saying that our given concept of space is of a framework that makes it possible for the things in it to co-exist⁸⁷ with one another.⁸⁸ There are other formulations in a Crusian vein, though they employ the term ‘community’ (that is, mutual interaction) rather than ‘co-existence.’ In the next section, I will explain why Kant favors the former term.

6. Kant's Departure from Crusius: Existence, Community, and Place

As one would expect, Kant does not uncritically accept Crusius's exposition of space. He departs from Crusius's view in three key respects. First, unlike Crusius, Kant does not think we can make any justified claims about the domain of the concept of space, the range of objects that it can be correctly applied to, based solely on

⁸⁶ This view of space represents a marked deviation from Kant's earlier career. As we have seen, in Kant's earliest texts – *Thoughts on the True Estimation of Living Forces* [1747], *Universal Nature History* [1755], and *Physical Monadology* [1756] – he claims that there is no space without actual mutual interaction among actually existing substances. In these texts, Kant goes so far as to claim that actual mutual interaction is included in the concept of space. In the *New Elucidation* [1755], for instance, he writes: “[T]he concept of space is constituted by the interconnected actions of substances” (Ak. 1:415). As we will see, mutual interaction continues to play an important role in Kant's mature account of the concept of space, even though Kant abandons his early view that space depends for its existence on *actual* mutual interaction.

⁸⁷ As I explain below, the concept of co-existence is not identical with the concept of temporal simultaneity.

⁸⁸ Another remark in this vein: “Space, prior to all things determining (filling or bounding) it, or which, rather, give an empirical intuition as to its form, is, under the name of absolute space, nothing other than the mere possibility of external appearances” (A429/B457).

conceptual analysis. Indeed, we cannot do this with any concept, for Kant. Consider, for example, the concept ‘cause.’ By analyzing it, we see that “the concept of a cause obviously contains the concept of a necessity of connection with an effect and a strict universality of a rule” (B5). Anything that falls under the concept of cause will have these marks. But this analysis does not tell us what things in the world are causes; indeed, it does not guarantee that there are any causes in the world. (If Kant thought that mere conceptual analysis could help us on these points, he would not have needed to go through the trouble of providing a Transcendental Deduction.) The same holds for the concept ‘space.’ Though analysis teaches us about the content of the concept of space – it teaches us, for example, that space is a framework that consists of places and that is ontologically prior to the objects in it – it does not tell us what objects are in space. By contrast, Crusius thinks it is possible to infer from analysis that “everything is somewhere” (that is, everything that exists is in space).⁸⁹ This view makes sense when we keep in mind that the concept Crusius is analyzing to explicate the concept of space is the concept ‘existence.’ From Kant’s standpoint, however, the assumption that the concept of space is contained in the concept of existence is a symptom of Crusius’s dogmatism. Kant explicitly attacks the view that “everything is somewhere” in the *Inaugural Dissertation* and the *Critique*.⁹⁰

Second, in contrast to Crusius, Kant thinks that space grounds the possibility of the co-existence of the things in it (where a ‘thing,’ for Kant, is a substance) *because* space grounds the possibility of the mutual interaction (or community) of all the

⁸⁹ *Sketch* §48, 146.

⁹⁰ Ak. 2:413–414 and A27/B43.

substances in it. On Crusius's view, to say that two substances co-exist is just to say that each exists. It is impossible for substances to *co-exist* without being in space because it is impossible for them to *exist* without being in space. Just as Crusius takes the spatial relatedness of two substances (the fact that they belong to the same space) to follow from the mere fact that each exists (and is thus, somewhere), he also takes their causal interaction with one another to follow from the fact that they both exist. Thus, for Crusius, it is logically impossible for substances to exist without also co-existing, being part of the same space, and acting causally on one another.

But Kant maintains the opposite.⁹¹ For Kant, the co-existence of two substances, along with the co-existence of their respective states, requires more than that the substances and their states all exist. It also requires that the substances have something to do with one another; they must be members of the same world.⁹² This, in turn, requires that the substances *interact* with one another, such that each serves as the causal ground for determinations (i.e. properties) in the other. The question for Kant is, how is this possible? Whereas in Kant's earlier works, he tries to explain space in terms of mutual interaction, he comes to see that it is *space* that makes possible the mutual interaction (or community) of whatever substances exist within it.

I call this Kant's *Fundamental Conception* of space. Kant's commitment to it is evident in a number of writings. In the *Inaugural Dissertation*, for instance, Kant

⁹¹ See, e.g., the *New Elucidation* (Ak. 1:414). For an argument to the effect that Crusius (rather than Leibniz or Wolff) is Kant's target in his discussion of the "principle of co-existence" in the *New Elucidation*, see Eric Watkins, *Kant and the Metaphysics of Causality* (Cambridge: Cambridge University Press, 2005), 141–149.

⁹² As the term is used by Kant, 'co-existence' does not have a specifically spatial or temporal connotation. It may be sufficient for the co-existence of two things that they exist in different places at the same time, but it is not necessary. In the sense that Kant is using the term, things-in-themselves (which are non-spatio-temporal) can co-exist.

writes, “space contains the conditions of possible reciprocal actions only in respect of matter” (Ak. 2:414). A similar remark occurs in the mid-1770s: “space is possibility of community” (Ak. 28:325). Yet another formulation of the view occurs in a note that Kant inserted into his copy of the first edition of the *Critique* in the Third Analogy Chapter: “Space makes community possible” (Ak. 23:31–32).⁹³ It is because Kant thinks that the co-existence of substances that are in space requires the mutual interaction of those substances, *and* he thinks that space grounds the possibility of the mutual interaction of whatever substances are in space, that Kant can agree with Crusius that space is a framework that makes possible the co-existence of the substances in it. Note, however, that this does not commit Kant to the view that all co-existing substances and their states are in space.⁹⁴ As we saw above, Kant does not think that conceptual analysis alone can tell us anything about just what things (that is, what substances and states of substances) are in space. For all conceptual analysis reveals, it could well be the case that the class of things that co-exist in space is a small subset of the class of all existing things.⁹⁵

Third, Kant disagrees with Crusius about the nature of the places that space consists of. For Crusius, “possible space” consists of *absolute* places. (In this respect, Crusius’s view has much in common with Newton’s.) Absolute places have the following features: (i) an object can occupy an absolute place even if it is not spatially

⁹³ See also B293 (quoted below), Ak. 20:284, and Ak. 11:246.

⁹⁴ It also does not commit Kant to the view that everything in space is temporally simultaneous with everything else. As I understand Kant’s view, all the *substances* in space co-exist with one another (both in the abstract sense of existing in the same world and in the specifically temporal sense of existing simultaneously), but not all of the *states* of substances in space are temporally simultaneous.

⁹⁵ On a two-worlds reading of transcendental idealism, this is in fact Kant’s view: things-in-themselves are co-existing substances, though they do not co-exist with any of the things in space.

and causally related to any other (this happens when there is only one object in space);
 (ii) between any two absolute places, there is some fixed quantum of *distance*, even if we cannot know what it is and even if there are no things whatsoever in space; and
 (iii) when a thing moves from one absolute place to another, its motion is absolute.

In contrast to Crusius, Kant does not think that space contains absolute places. In addition to the epistemological problem that we have no direct experience of such places, Kant also seems to think that the very notion of an absolute place is absurd.⁹⁶ On Kant's view, all place is relative. He defines place "as determinate position, i.e., relation to other things in space" (Ak. 29:839–840).⁹⁷ By this, Kant means that (i) no object can occupy a place without being spatially and causally related to other objects (thus, if there is only one object in space, it has no place); (ii) the specific spatial relations (including distance-relations) that obtain among places in space depend on relations that obtain among objects that occupy those places (such that, if there are no objects in space, then there is no specific distance between any two places);⁹⁸ and (iii) all motion is relative (movement from one relative place to another). Because Kant thinks that space is a framework that consists entirely of relative places (in the above

⁹⁶ See Ak. 2:403–404, Ak. 17:453 and Ak. 17:578. There seem to be at least two things that Kant finds absurd about absolute places: first, these are supposed to have an infinite number of true relations (e.g. distances) to one another, even when there are no things in space (see, e.g. Ak. 2:404); second, an object's being at an absolute place is not supposed to require that it relate to any other actually existing thing (this is part of what it means to call it an *absolute* place), though it is also supposed to be the case that objects existing at different absolute places are necessarily spatially and causally related in virtue of the relations that exist among their respective absolute places (see, e.g. Ak. 2:406).

⁹⁷ Cf. Ak. 28:758. See also A274/B330.

⁹⁸ A fairly clear statement of this occurs in the Antinomy Chapter of the *Critique*: "Thus things, as appearances, do determine space, i.e., among all its possible predicates (magnitude and relation) they make it the case that this or that one belongs to reality; but space, as something subsisting in itself, cannot conversely determine the reality of things in regard to magnitude and shape, because it is nothing real in itself" (A431/B459).

sense), he holds that space is entirely relational.⁹⁹ A clear expression of Kant's relationism occurs in the Amphiboly Chapter: "[S]pace ... along with everything that it contains, consists of purely formal or also real relations" (A284/B340).¹⁰⁰

Though to my knowledge it has never been remarked, it is interesting to note that Kant's view that places depend on relations among things in space is one that holds constant across the pre-Critical and Critical periods, notwithstanding the major shifts in Kant's views on the nature of space. One can find this view of places in the *New System of Motion and Rest* [1758], where Kant writes that "the place [*Ort*] of a thing is known through the situation [*Lage*], through the position [*Stellung*], or through the outer relation of the thing to the others which are around it," and in the *New Elucidation* [1755], where he writes that "place, position, and space are relations of substances" (Ak. 1:414). In the former, Kant objects to the possibility of a mathematical space devoid of all creatures (presumably, Newton's absolute space), because it would be impossible to distinguish different places [*Plätze*] without bodies.¹⁰¹ Even in *Directions in Space* [1768], where Kant is commonly supposed to be arguing for something like absolute space, he never explicitly advocates an absolutist view of *places*, and indeed, in one passage, he appears to explicitly deny absolute places.¹⁰²

⁹⁹ Rae Langton calls attention to this aspect of Kant's account of space in *Kantian Humility: Our Ignorance of Things in Themselves* (Oxford: Clarendon Press, 1998), 166–168, though she does not explain what it means or how Kant justifies it.

¹⁰⁰ Other statements about the relationality of space occur at A23/B37 and B67.

¹⁰¹ See also 28:758: "Places are pure relations."

¹⁰² See Ak. 2:378.

It should be noted that the claim that an object's having a place in space depends on its being spatially and causally related to other objects is not incompatible with the claim that there are places in space prior to their being causally interacting objects. It is just that, on Kant's view, these places are not *determinate* (that is, there is no fact of the matter about their distances from one another) in the absence of actually existing objects that are spatially and causally related. To say that space is determined by actually existing objects and their spatial and causal relations is compatible with saying that space (qua indeterminate) is ontologically prior to the things in it, and grounds the possibility of their mutual interaction (and with it, their co-existence). Kant's commitment to such a view is evidenced, *inter alia*, by his statement in the General Note on the System of Principles that space "already contains in itself *a priori* formal outer relations as conditions of the possibility of the real (in effect and counter-effect, thus in community)" (B293).¹⁰³

7. The First Metaphysical Exposition Revisited

As we have seen, the first argument of the MECS is contained in three notoriously dense and obscure sentences:

Space is not an empirical concept that has been drawn from outer experiences. For in order for certain sensations to be related to something outside me (i.e., to something in another place in space from that in which I find myself), thus in order for me to represent them as outside and next to one another, thus not merely as different but as in different places, the representation of space must already be their ground. Thus the representation of space cannot be obtained from the relations of outer appearance through experience, but this outer experience is itself first possible only through this representation. (B38)

¹⁰³ I discuss the relationship between community and spatial location at length in Chapter 4.

The details of the argument fall into place once we take into account the debate that the major philosophers of Kant's day had over the concept of space. As we have seen, Wolff's strategy for finding the marks of the concept of space is to consider the manner in which we form the concept of space. According to Wolff, this concept arises when we represent many co-existing bodies outside of one another and notice a "certain order" among them. Because Wolff thinks we arrive at the concept of space in this way, he takes the following to be a partial exposition of the concept of space: space is "the order of those things that co-exist."¹⁰⁴ Baumgarten then tweaks this exposition, such that space is "the order of co-existent things mutually posited outside of one another."¹⁰⁵ If I am right that Kant is relying on the results of an exposition of space in the first argument of the MECS, then it would be natural for him to be attacking the Wolffian exposition in his argument.¹⁰⁶ Such a reading of the argument is supported by the fact that Kant is clearly attacking the Wolffian exposition of time¹⁰⁷ in the *Inaugural Dissertation* (at Ak. 2:399), where he gives arguments for the *apriority* of the concepts of time and space that are analogous to those that he gives in the *Transcendental Aesthetic*.

As I read the crucial second sentence of the first argument in the MECS, Kant is making three points. First, insofar as the Wolffians rely on phrases like 'outside of

¹⁰⁴ *German Metaphysics* §46, 15.

¹⁰⁵ *Metaphysics* §239, 102.

¹⁰⁶ It is true that Kant did not always clearly distinguish between the Leibnizian and the Wolffian positions. I am merely claiming that the Wolffian position is the main target of the first argument of the MECS; whether or not Kant might have also thought that Leibniz held this view is another question. (Note, though, that Kant draws a sharp distinction between the Wolffian account of space and the Leibnizian account of space in the *Metaphysical Foundations of Natural Science* [1786], Ak. 4:508.)

¹⁰⁷ See *German Metaphysics* §94 and Baumgarten's *Metaphysics* §239, 102.

one another' and 'next to one another' in their expositions of the concept of space, they must be using these phrases in a spatial sense, such that for things to co-exist outside of one another (and outside of us) is for these things to co-exist with one another and with us *in space*. Though Kant does not explain here why these terms must be understood in a spatial sense, he probably thought that he did not need to, since his philosophically-informed readers would have been familiar with Crusius's objection: if phrases like these are being used in a non-spatial sense, then the Wolffian exposition fails to distinguish spaces from definitions, pieces of music, etc.

Second, insofar as we observe, or sense, an order among things that co-exist spatially outside of one another (and us), these objects must occupy places that are different from one another (and from the places that we occupy). Though Kant does not say so explicitly, he is relying here on the claim that space consists of a manifold of places and the metaphysical truth that two things cannot co-exist in the same place. The former is, as we have seen, something that Kant thinks we can learn about space through an analysis of the given concept of space.

Third, insofar as we observe or sense an order among things that co-exist at different places, space is the ground of the possibility of this co-existence. This claim, in turn, entails the falsity of the Wolffian exposition of space, according to which space is the order of things that co-exist outside of one another. Though Kant does not say so explicitly, he is relying here on a claim that emerges from conceptual analysis: space is the ground of the possibility of the co-existence of the things in it. It follows from this characterization of space that if we have sensations of objects that co-exist at

different places, then space is the ground of the possibility of the co-existence of these objects. It also follows from this characterization of space that, if we co-exist in space with the objects that we sense, then space is the ground of the possibility of our co-existence with these objects.

The claim that space is the ground of the possibility of the co-existence of the objects in space entails the falsity of the Wolffian account of how we arrive at the concept of space. Kant draws this conclusion in the first clause of the last sentence of the argument. But the overall conclusion of Kant's argument is more general; it occurs in the first sentence: "Space is not an empirical concept that has been drawn from outer experiences" (B38). In other words, there is *no way* to get the concept of space from experience.

How does Kant attain this very strong conclusion? Here is my reconstruction of the argument:

(1) Space is the ground of the possibility of the co-existence of whatever things are in space

(From Conceptual Analysis)

(2) Space is the ground of the possibility of the co-existence of the things that I experience, insofar as these things are in space **(From 1)**

(3) If something is a ground of the possibility of the co-existence of the things in it, then it is not itself an order constituted by the co-existing things in it **(Assumption)**

(4) Space is not an order constituted by things that co-exist outside of one another **(From 1 and 3)**

(5) Experience of space is not the same as experience of an order constituted by things that co-exist outside of one another **(From 4)**

(6) If the concept of a thing is drawn from experience, it must be drawn from experience of the thing **(Assumption)**

Therefore,

(7) The concept of space is not drawn from experience of an order constituted by things that co-exist outside of one another (**From 5 and 6**)

(8) The ground of the possibility of the co-existence of the things that I experience, insofar as these things are in space, is not itself something that I experience (**Assumption**)

(9) I do not experience space (**From 2 and 8**)

Therefore,

(10) The concept of space is not drawn from experience (**From 6 and 9**)

I find premise (1) in the last clause of the second sentence of the passage.

Premise (2) occurs in the last clause of the third sentence. As noted above, (10) occurs in the first sentence of the passage, while (7) occurs in the first clause of the third sentence. The remaining premises are not explicitly stated, perhaps because Kant thought that they would be obvious to his readers.

It should be noted that, if my reconstruction of the argument is correct, then Kant's wording in the last clause of the second sentence and in the last clause of the second sentence is misleading. Though Kant speaks of the "representation of space," on my reading what he really means is the *object of the representation of space*, where the specific representation in question is our *given concept of space*. This is not such an interpretive stretch as it might initially appear. Kant is not always careful to distinguish between concepts and their objects. We need look no further than the first sentence of the argument to find evidence of this: "Space is not an empirical concept that has been drawn from outer experiences" (B38). There is a reason for such

sloppiness. Kant thinks that the marks of a concept are also marks of the object of this concept. This is why the analysis of a given concept gives us knowledge about the nature of the corresponding object. Given this model of conceptual analysis, it is not surprising that Kant sometimes slides back and forth between talking about the representation of space (that is, the given concept of space) and talking about the object of this representation.

8. Getting From *Apriority* to the Form Thesis: Kant's Transcendental Deduction of the Concept of Space

Kant's arguments for the *apriority* of the concept of space in the MECS by no means address all of his philosophical concerns in the Transcendental Aesthetic. As I have explained in the course of my criticism of Allison's reading, Kant regards the project of establishing the *apriority* of a concept as separate from, and prior to, the project of establishing its validity. Kant does take up the issue of the *validity* of the *a priori* concept of space in the later stages of the Transcendental Aesthetic, but only after he has demonstrated that the concept has its source in an *a priori* (or pure) intuition.¹⁰⁸ It is not until the "Conclusions from the Above Concepts" section, where Kant completes his argument for the Form Thesis, that he advances beyond the dogmatic position of Crusius, whose error consists in his assumption that the validity of an *a priori* concept is non-problematic. It is this mistake that leads Crusius to (erroneously) claim that the concept of space applies, not simply to objects of experience, but to all objects without exception.

¹⁰⁸ The key arguments here are the third and fourth metaphysical expositions. I will have more to say about them in Chapter 2.

As we have seen, Kant, like Crusius, seeks to answer the question “what is space” by getting clear about just what sort of a thing we think through the concept of space. On the basis of these conceptual/ontological considerations, he concludes that our concept of space is *a priori*. Kant’s method rests on the assumption, shared by Crusius, that conceptual analysis can be genuinely illuminating: by rendering distinct the marks of a concept of a thing, we can learn something substantive about the nature of that thing. Kant never second-guesses the assumption that conceptual analysis can tell us about the nature of causation and space, and provide insight into the *a priori* or *a posteriori* status of their corresponding concepts. However, conceptual analysis alone is powerless to answer two new questions that arise: (1) How can we be justified in applying *a priori* concepts to objects given in experience? (2) What limits, if any, are there on the justified application of *a priori* concepts?

These are questions that Crusius simply does not ask. He immediately concludes from his conceptual analysis and definition of space that the concept holds with unrestricted validity with respect to all objects. For Crusius, all objects – whether given in experience or not – are somewhere and somewhen. This includes God and the soul. The question never arises of how an *a priori* concept could have objective validity or whether there might be special restrictions on its legitimate scope of application.

For Kant, however, the question of the validity of the *a priori* concept of space is a very serious one, as is the analogous question about the validity of the pure concepts of the understanding, which he takes up in the Transcendental Deduction.

Kant's characterization of space as a form of intuition arises in the context of his attempt to account for the validity of the *a priori* concept of space, our right to apply it to objects of experience. The key passage here is the following:

Space is nothing other than the form of all appearances of outer sense, that is, the subjective condition of sensibility, under which alone outer intuition is possible for us. Because now the receptivity of the subject to be affected by objects necessarily precedes all intuitions of these objects, it can be understood how the form of all appearances could be given in the mind *a priori* before all actual perceptions, and how it could contain, before all experience, principles of the relations of those objects, as a pure intuition in which all objects need to be determined. (A26/B42)

Kant offers here a transcendental deduction of the concept of space. According to Kant, the only way that we could be justified in applying our *a priori* concept of space to the outer objects of experience, and the only way that ascriptions of spatial predicates to such objects could constitute *a priori* knowledge, is if space is a merely subjective framework that necessarily encompasses all and only objects given to us through outer intuitions. If this claim is to avoid triviality, by 'outer intuitions' Kant must mean intuitions of objects that *discursive creatures like us take to be mind-independent*.¹⁰⁹ (If 'outer' were merely a synonym for 'spatial,' Kant would be saying that space encompasses all and only objects of spatial intuition, which is a tautology, or at least very close to one.) To say that space is *subjective* is to say that space, the places in it, and spatial features of objects in space – in short, everything spatial – do not exist independent of our pure intuition. Given the ontological dependence of the unitary spatial framework that we intuit on our pure intuition of it, Kant sometimes

¹⁰⁹ As I will explain below, these objects are not *truly* mind-independent from the perspective of transcendental idealism, which we occupy when we are trying to make sense of the validity of *a priori* concepts and *a priori* knowledge.

describes space as being itself a pure *intuition*, as he does in the passage just quoted.¹¹⁰ On other occasions, Kant seems to identify space with the *object* of our pure intuition,¹¹¹ while continuing to insist that this object has no existence independent of the act of representation. Kant's vacillation here is understandable: on the one hand, the space of which we have a pure intuition does not exist independent of this pure intuition. Since the object of this pure intuition owes whatever reality it has to this act of representation, there is a sense in which space just is "at bottom" a pure intuition. On the other hand, it is not clear how a pure intuition could be a representation without being a representation *of* something. But what is it "of"?" The natural answer is "space." But if we say that, then we are identifying space with the object of the representation rather than the representation.

So that is what Kant means when he says that space is something subjective. But what does it mean to say that space is a *subjective framework* – or a *form* – to use Kant's terminology? A form, for Kant, is "what allows the manifold of appearance to be ordered in certain relations" (A20/B34). By "the manifold of appearance," Kant means the sensory or empirical content of empirical intuition. As emerges later in the *Critique*, it is our discursive understanding that imposes order on the manifold of empirical intuition by synthesizing or combining it in accordance with various categories (see, e.g., B137). But it is the form of this manifold that *allows* it to be synthesized. Space is a subjective framework or form insofar as (i) it does not exist

¹¹⁰ See also B136n. As we will see in Chapter 2, Kant's tendency is to identify space with the intuition of it is also explained by a key isomorphism between the two things: just as *space* contains within it a manifold of places, so does the intuition of space contain within it a manifold of intuitions of places.

¹¹¹ See, e.g., B40.

independent of our pure intuition of it, and (ii) this pure intuition is what allows all the manifold of empirical intuition encompassed by it to be synthesized.¹¹² As I will explain in Chapters 3 and 4, the particular syntheses that the pure intuition of space makes possible are syntheses in accordance with the *categories of quantity* and the *category of community*, respectively.¹¹³

It should be clear from the above what Kant's Form Thesis amounts to. The Form Thesis is the claim that *space is a merely subjective framework that necessarily encompasses all and only objects given to us in outer intuitions*. With this claim, Kant is addressing two questions that his Fundamental Conception of space leaves unanswered. Kant's Fundamental Conception of space, as I understand it, is that *space is a framework that makes it possible for the substances in it to be in community, and thus to co-exist, with one another*. The Fundamental Conception does not specify whether or not this framework is in fact mind-dependent; it also does not specify just what substances exist in space. Someone could accept the Fundamental Conception while holding that space is fully mind-independent; similarly, someone could accept it while insisting that absolutely every substance that exists is in space. With the Form Thesis, Kant is saying that space is a subjective framework (in the sense specified above), and that the set of substances that exist in space includes *all and only* those that are objects of our outer intuition. Since these objects exist in space and space is

¹¹² That Kant regards this subjective framework or form as a *pure intuition* is clear from A20/B34.

¹¹³ Kant discusses the first type of synthesis (which he calls the "figurative synthesis") in the B-Deduction and in the Axioms of Intuition. He discusses the second type in the Third Analogy. As I will argue, the first type of synthesis is what metaphysically determines the *figure and magnitude* of the regions in space that we perceive along with the figure and magnitude of the matter that fills those regions; the second type of synthesis, by contrast, is what metaphysically determines the *location* (i.e. the position) of the regions of space that we perceive along with the location of the matter that fills those regions.

mind-dependent, Kant concludes that they, too, are mind-dependent. (This does not change that fact that discursive creatures like us *take them* to be mind-independent, at least in moments when we are not engaged in reflection about the conditions of the possibility of *a priori* concepts and *a priori* knowledge.) For this reason, he calls them “appearances.”¹¹⁴ Since Kant thinks that there are substances that exist and that are not objects of our intuition – such as God and the soul – he concludes that these substances are not in space (or time, for that matter). In this way, he neatly avoids the paradoxes that arise from maintaining that everything that exists is spatial (such as questions about the divisibility of God).

As I understand it, the Form Thesis is not only consistent with the Fundamental Conception; it specifies two answers to questions that the latter leaves unanswered: (1) Is space mind-independent or not? (2) Which substances within the domain of all existing substances are in space? Kant posits the mind-dependence of space in order to make sense of the validity of our *a priori* concept of space and the validity of our *a priori* knowledge of spatial features of the world. As Kant writes: “Our explanations accordingly teach the reality (that is, the objective validity) of space with respect to all that which can occur to us as outer object” (A28/B44). But the Form Thesis, containing as it does an answer to (2), implies that we are not justified in applying the concept of space to anything that is not an object of our outer intuition.

¹¹⁴ Similar considerations apply to objects of inner intuition, since these are in time (though not space) and Kant thinks that time is mind-dependent.

It is here that Kant differs most markedly from Crusius, who maintains that all objects are somewhere and somewhen. Kant surely has Crusius in mind in the “Conclusions From the Above Concepts” when he writes the following:

The proposition: “All things are next to one another in space,” is valid under the limitation that these things be taken as objects of our sensible intuition. If here I add the condition to the concept and say “All things, as outer intuitions, are next to one another in space,” then this rule is valid universally and without limitation. (A27/B43)

Crusius’s mistake, for Kant, is not that he improperly analyzes the concept of space, but that he never asks about its legitimacy, and dogmatically assumes its unrestricted validity. This leads him to the mistaken principle that all objects are somewhere and somewhen, which Kant labels a subreptic axiom in the *Inaugural Dissertation* (Ak. 2:413–414).

In contrast to commentators like Allison and Strawson, who seem to think that the “Kantian Thesis” that space is a necessary condition of objective experience functions as a premise in the argument for the Form Thesis (in particular, as a premise in the first metaphysical exposition) on my reading, the “Kantian Thesis” is a consequence of the Form Thesis. Kant thinks we could have no objective experience (i.e. experience of objects that discursive creatures like us take to exist independent of our minds) without space because of two requirements of objective experience. First, our having objective experience requires that objects be given to us in outer empirical intuition. But the Form Thesis tells us that the pure intuition of space necessarily encompasses all and only objects of outer intuition. Thus, the pure intuition of space is a necessary condition of objective experience. Second, our having objective

experience requires that our understanding *synthesize* the manifold of empirical intuition in accordance with the categories. But the Form Thesis tells us that space is a *subjective framework*, meaning that our pure intuition of space is what enables the understanding to synthesize in accordance with the categories.

9. Two Ontologies of Space and Two Sets of Questions

As I explained in the previous section, Kant's Fundamental Conception of space is fully compatible with his Form Thesis. Since the Form Thesis is part of an idealist metaphysics of space – one which involves the denial of the mind-independence of space – it follows that Kant's Fundamental Conception of space is itself compatible with an idealistic metaphysics. But the Fundamental Conception is also compatible with a realist metaphysics. As we saw above, it is neutral with respect to questions about the mind-independence of space and the domain of objects that exist in space. As I will argue in this section, Kant is committed to both an idealist and a realist metaphysics of space, each of which brings with it a distinctive set of metaphysical questions and answers.

As we saw, the Form Thesis arises in the context of Kant's attempt to answer questions about the validity and scope of our *a priori* concept of space. When asking and answering such questions Kant engages in what he calls “transcendental reflection” (see e.g. A261/B317), and which I call occupying the *transcendental standpoint*. From the transcendental standpoint, something counts as objective or subjective (mind-independent or mind-dependent) depending on whether it is or is not

a substance that exists independent of our intuition (that is, a thing-in-itself) or a property of such substances. Kant thinks that we must deny that space is objective in this sense if we are to explain the legitimacy of our *a priori* concept of space.

But the transcendental standpoint, from which idealism about space obtains, is not the only standpoint. There is also a perspective from which empirical realism about space obtains.¹¹⁵ As Kant writes:

Our expositions accordingly teach the reality (i.e. the objective validity) of space in regard to everything that can come before us externally as an object, but at the same time the ideality of space in regard to things when they are considered in themselves through reason, i.e., without taking account of the constitution of our sensibility. We therefore assert the empirical reality of space (with respect to all possible outer experience), though to be sure its transcendental ideality, i.e., that it is nothing as soon as we leave aside the condition of the possibility of experience, and take it as something that grounds things in themselves. (A28/B44)

When we cease thinking about the validity and scope of our *a priori* concepts, we occupy what I call the empirical standpoint. From this standpoint, space serves as the criterion for objectivity. The “objectively real” things are space itself and those things that have a determinate location in space. From this perspective, space is viewed as an infinite receptacle that is really “out there” and that *can* contain material substances that are real, though it can also exist in their absence. In that respect, it resembles Newton’s absolute space.

It is important to see that Kant regards both transcendental idealism about space and empirical realism about space as valid. Indeed, he thinks that the latter is

¹¹⁵ Cf. the distinction between “the empirical realist point of view” and “the transcendental idealist point of view” in Tyler Burge, *Origins of Objectivity* (Oxford: Oxford University Press, 2010), 156.

secured by, and follows from, the former. It is in this sense that Kant is committed to both an idealist and a realist metaphysics of space.

It is also important to see that each metaphysics is still very much incomplete by the end of the Transcendental Aesthetic. Kant leaves a number of crucial questions unanswered that we would expect to be answered in a complete metaphysics of space. At the heart of Kant's *realist* metaphysics of space is the claim that space is an objective framework (a receptacle consisting of nothing but places) that makes possible the community of the substances in it. But so far, the following questions remain unanswered: Are there geometrical figures in space even in the absence of physical objects? Do regions of space have a determinate (that is, fixed) magnitude even in the absence of physical objects? What, if anything, is required for the places in space to stand in determinate distance-relations to one another? Newton, among others, had answered in the affirmative to the first two of these questions. As for the third question, he thinks that nothing is required: absolute space consists of absolute *places*, whose distances to one another are fully determinate and brutally so, even if they are not knowable to us. Moreover, these distance-relations remain fixed even in the absence of all physical objects.

But there is good reason to think that Kant disagrees with Newton on all these points. Kant's disagreement is evident, *inter alia*, in the following remark from the Antinomy Chapter of the *Critique*: "Thus things, as appearances, do determine space, i.e., among all its possible predicates (magnitude and relation) they make it the case that this or that one belongs to reality" (A431/B459). As I will show in Chapters 3 and

4, in the *Transcendental Analytic*, Kant offers an account of how the figure, magnitude, and relations of places in space are determined by properties of empirical objects in space. In doing so, he fills out the realist metaphysics of space that he first presents in the *Transcendental Aesthetic*.

At the heart of Kant's *idealist* metaphysics of space is the Form Thesis. But just as Kant's initial presentation of his realist metaphysics leaves key questions unanswered about the relation between the properties of space and the properties of the things in it, Kant's initial presentation of his idealist metaphysics leaves key questions unanswered about the relationship between space and our *understanding*. As we have seen, to say that space is a subjective framework is to say, in part, that our pure intuition of space is what enables the understanding to synthesize the manifold of empirical intuition. The chief job of the understanding, as Kant understands it, is to unify our empirical intuitions, and by doing so, to determine the features and relations of their corresponding objects. What remains unclear, by the end of the *Aesthetic*, is to what extent the properties of our pure intuition of space and the spatial properties of the objects of the empirical intuition that it encompasses, depend on features of the understanding. Of particular interest here are the unity of our pure intuition of space, as well as the figure, magnitude, and locations of the objects of outer intuition. Do these depend on features of the understanding? If so, which features, and how is this dependence-relation to be understood? As I will show in Chapters 2, 3, and 4, in the *Transcendental Analytic*, Kant offers answers to these questions. In doing so, he fills

out the idealist metaphysics of space that he first presents in the *Transcendental Aesthetic*.

Though commentators tend to act as though Kant's Form Thesis exhausted all that he had to say on the topic of what space is, this claim is only part of a much larger story. The project of subsequent chapters is to fill out this story.

Chapter 2: The Unity and Manifoldness of Space

“If, in the case of such arrangements in nature, we are justified in searching for the foundation of the extensive harmony of the manifold, are we less justified in searching for a similar foundation for the regularity and unity which we perceive in the infinitely various determinations of space? Is this harmony any the less amazing for being necessary?” (Ak. 2:96)

“Space and time and all their parts are intuitions, thus individual representations along with the manifold that they contain in themselves (see the Transcendental Aesthetic), thus they are not mere concepts by means of which the same consciousness is contained in many representations, but rather are many representations that are contained in one and in its consciousness; they are thus found to be composite, and consequently, the unity of consciousness, as synthetic and yet as original, is to be found in them” (B136)

“Space is unitary, because it is the form of representation of all possible outer objects in a single subject” (Ak. 17.641)

1. Introduction

In Chapter 1, I focused on the Transcendental Aesthetic, where Kant argues for the Form Thesis. More precisely, Kant argues that space, when viewed from the transcendental standpoint, is a merely subjective framework that necessarily encompasses all and only objects given to us in outer intuition. Space is a *subjective framework* in the sense that (i) it does not exist independent of our pure intuition of it, and (ii) our pure intuition is what allows all the manifold of empirical intuition encompassed by it to be synthesized by the understanding. Though Kant wavers between identifying space with a pure intuition (that is, an *act of representation*) and the object of this pure intuition, there is good reason for his doing so.

As we saw, the Form Thesis is a part – but only a part – of a metaphysics of space built on Kant’s Fundamental Conception of space. Further work needed to be done to explain the relation between the Form Thesis and Kant’s claims about space in later sections of the *Critique of Pure Reason*. In this chapter, I turn to the Transcendental Deduction, where Kant begins to fill out the *idealist side* of his metaphysics of space. As will become clearer in subsequent chapters, Kant thinks that, from the transcendental standpoint, different features of space (and spatial objects) are dependent on different features of the understanding. Kant’s account of the different dependence-relations between space and the (discursive) understanding in the Transcendental Analytic unfolds over the course of the Transcendental Deduction, the Axioms of Intuition, and the later sections of the Analytic of Principles (particularly, the Third Analogy and the General Note on the System of Principles). As I will show in this chapter, in the Transcendental Deduction, Kant argues that the *unity of space* is grounded in a key feature of the discursive understanding. By contrast, he thinks that the manifoldness of space, the fact that it has many numerically distinct parts, is a brute fact about it. In subsequent chapters, we will look at the other sorts of metaphysical dependence-relations between space and the understanding, as they emerge in the Axioms of Intuition (which is treated in Chapter 3) and the later sections of the Analytic of Principles (which is treated in Chapter 4). As we will see in these chapters, Kant fills out his idealist metaphysics with an account of how the figure, magnitude, and location (i.e. position) of regions of space, along with the figure, magnitude, and position of the matter that fills those regions, are metaphysically

determined by acts of categorial synthesis on the part of a discursive understanding. This idealist metaphysics is paralleled by an account of how the figure, magnitude, and location of regions of space are metaphysically determined by the bodies that occupy them.

* * *

According to Kant, space is an essentially singular whole. In the Transcendental Aesthetic of the *Critique of Pure Reason*, he writes:

One can only represent a single space, and if one speaks of many spaces, one understands by that only parts of one and the same unique space. And these parts cannot as it were precede the single all-encompassing space as its components (from which its composition would be possible) but are rather only thought in it. It is essentially single [*wesentlich einig*]; the manifold in it, thus also the general concept of spaces in general, rests merely on limitations. (A25/B39)¹

Though there are many parts of space (that is, *places*) these are all contained within one-and-the-same spatial whole, of which they are parts. For Kant, a *whole* in the strict sense of the term is a complex entity that is prior to its parts, insofar as the latter can only be determined by *limiting* the former.² By contrast, a *composite* is a complex entity that is posterior to its parts. Space is a whole in the strict sense because the parts of space are determined (with respect to their figure and magnitude) by limiting the whole, that is, by describing finite shapes within it. For instance, by describing a triangle in space, the geometer determines that some place in space, or rather set of places, which was previously indeterminate, now has the property of being a triangle

¹ For a similar remark in the *Inaugural Dissertation*, see Ak. 2:405.

² See, e.g., A438/B466 where Kant claims that space is not a *compositum* but rather a *totum*. It should be noted, though, that Kant sometimes uses the term ‘whole’ (or its Latin equivalent) in a loose sense such that it denotes an entity (namely, the world) that is not prior to its parts. See, e.g., Ak. 28:39–40.

with an area of a certain magnitude.³ It is the fact that space is an essentially singular whole that Kant has in mind when he speaks of the *unity of space*.⁴ (As we will see, there are two senses in which space is a unity, corresponding to the two senses in which our pure intuition is a unity. Our pure intuition is a unity in the first sense insofar as it has as its object a single spatial whole that contains within it all parts of space, i.e. places. Our pure intuition is a unity in the second sense insofar as it is itself *one representation* that contains within it all intuitions of the parts of space. Whether we take space to be a unity in the first or second sense depends on whether we view it as the object of a pure intuition or as a pure intuition itself.)

Kant clearly attaches considerable importance to the unity of space. For instance, he mentions it repeatedly in the B-Transcendental Deduction, where it plays a crucial role in his overall argument.⁵ Given its prominent role in the *Critique*, it is no surprise that the doctrine of the unity of space has received considerable attention. A few decades ago, a debate raged about the truth of the claim that space is an essential

³ As will become clearer in Chapter 3 and Chapter 4, the term ‘determination’ has both an epistemological and a metaphysical sense. To determine (in the epistemological sense) the figure of a manifold of parts of space is to ascribe to it such and such a figure (e.g. ‘triangle’); to determine (in the metaphysical sense) the figure of a manifold of parts of space is to *impose* a specific figure on it (that is, to literally make it). Kant thinks that we do both.

⁴ For example, at B162: “Thus if, e.g., I make the empirical intuition of a house into perception through the apprehension of its manifold, my ground is the *necessary unity* of space [*notwendige Einheit des Raumes*] and of outer intuition in general....”

⁵ See B136n, B160–161 (along with the accompanying footnote), and B162 (quoted in the previous footnote). That the unity of space and time plays a crucial role in the argument of the B-Deduction is widely recognized by Kant commentators, though there is no agreement about what sort of role it plays. See, e.g., Allison, *Kant’s Transcendental Idealism* (2004), 189–193; Wolfgang Carl, “Die transzendente Deduktion in der zweiten Auflage,” [“Die transzendente Deduktion”] in *Immanuel Kant: Kritik der reinen Vernunft*, ed. Georg Mohr and Markus Willaschek (Akademie Verlag, 1998), 188–216 (205–207); Joseph Claude Evans, “Two Steps in One Proof: The Structure of the Transcendental Deduction of the Categories,” [Two Steps in One Proof”] *Journal of the History of Philosophy* 28/4 (1990): 553–570 (564–565); Dieter Henrich, “The Proof-Structure of Kant’s Transcendental Deduction,” [“The Proof-Structure”] *Review of Metaphysics* 22/4 (1969): 640–659 (646).

unity.⁶ In recent years, interest has begun to shift to the following question: Does Kant think that unity is a fundamental (albeit essential) property of space – a property that admits of no further explanation?⁷ Or does Kant think that the unity of space is grounded in some (deeper) feature of the (discursive) understanding, namely, the original synthetic unity of apperception?⁸ This question is closely connected to another: does Kant think that it is possible that there are non-human discursive beings whose forms of intuition lack unity? In other words, is it a necessary feature of all forms of intuition that they are unities? How one answers these questions depends in part on how one interprets Kant’s remarks about the unity of space in the B-Deduction, such as the notoriously cryptic B160–161 (and accompanying footnote), where Kant distinguishes between space as a “form of intuition,” which “merely gives the manifold,” and space as a formal intuition, a unitary representation that “contains a manifold” (B160n).

Commentators who deal with these remarks tend to fall into two main camps.⁹

On the one hand, there are commentators who take Kant to be claiming in the B-

⁶ See, for instance, Anthony Quinton, “Spaces and Times,” *Philosophy* 37/140 (1962): 130–46; Keith Ward, “The Unity of Space and Time,” *Philosophy* 42/159 (1967): 68–74; Strawson, *The Bounds of Sense*, 62ff.; Wilkerson, *Kant’s Critique of Pure Reason*, 29–35; Richard Swinburne, *Space and Time* (London: St. Martin’s Press, 1981), 28ff.

⁷ It might be thought that it is absurd to look for a ground for why something has a property that is essential to it; it would be akin to asking why the thing is the thing that it is. But this is not so. For example, it is not absurd to ask for an explanation for why Socrates is a human, even if Socrates is necessarily or essentially a human (i.e. a human in all possible worlds). The explanation might take the following form: Socrates is necessarily a rational animal and everything that is necessarily a rational animal is necessarily a human. Or better: Socrates is necessarily the offspring of humans and everything that is necessarily the offspring of humans is a human. By contrast, it is absurd to ask for a ground for the fact that water = H₂O (an identity). And it is also absurd to ask for a metaphysical ground for a *de dicto* necessity, such as, necessarily, for all x, if x is a bachelor, then x is unmarried.

⁸ In §2, I explain what the original synthetic unity of apperception is.

⁹ One important exception is Strawson, who thinks that Kant is simply being inconsistent. See Strawson, *The Bounds of Sense*, 64–65.

Deduction that (1) the unitary space of the Aesthetic is a formal intuition (or the object of such an intuition); (2) the unity of space is identical with the unity of a formal intuition; (3) the unity of a formal intuition is the result of an act of synthesis (the so-called figurative synthesis); (4) this act of synthesis is required by the original synthetic unity of apperception. On this reading, which I call the Synthesis Reading, the unity of space is immediately grounded in an act of figurative synthesis and mediately grounded in the original synthetic unity of apperception.¹⁰ On the other hand, there are commentators who accept (3) and (4) but who deny (1) and (2).

According to these commentators, the unitary space of the Aesthetic is not a formal intuition (or its object) but rather what Kant calls a “form of intuition” at B160–161.¹¹ For such commentators, a formal intuition is a *determinate* representation of space, that is, a *conceptualized* representation of a *determinate part* of space (for example, *this triangle* or *this house*). They hold further that the unity of space – the form of our

¹⁰One might call this the “Hegelian reading,” because it goes back at least as far as Hegel: see, e.g. Georg Wilhelm Friedrich Hegel, *Faith and Knowledge*, ed. and trans. Walter Carf and H.S. Harris (Albany: State University of New York Press, 1977), 69–70. For contemporary espousals of an interpretation along these lines, see John McDowell, “Hegel’s Idealism as Radicalization of Kant,” [“Hegel’s Idealism”] in *Having the World in View: Essays on Kant, Hegel, and Sellars* (Cambridge, Massachusetts: Harvard University Press, 2009), 69–89 (73–76); McDowell, “The Logical Form of an Intuition,” 27–30; Longuenesse, “Synthesis and Givenness,” 66–73; Longuenesse, *Kant and the Capacity to Judge*, 212–225; Pierre Keller, *Kant and the Demands of Self-Consciousness* (Cambridge: Cambridge University Press, 1998), 107–112; and Wayne Waxman, *Kant’s Model of the Mind: A New Interpretation of Transcendental Idealism [Kant’s Model of the Mind]* (Oxford: Oxford University Press, 1991), 79ff.

¹¹As we will see, the term ‘form of intuition’ is ambiguous, a fact conceded by proponents of both readings. This ambiguity is the source of considerable confusion. In some places, Kant uses the term ‘form of intuition’ as a synonym for ‘formal intuition’. The dispute concerns the distinction that Kant draws between a formal intuition and form of intuition at B160–161, where the two terms are clearly being used to denote different things. The question is, which of these terms denotes the unitary spatial framework that Kant describes in the Transcendental Aesthetic (where this space is referred to as a ‘form of intuition’ – which makes things quite confusing indeed). The assumption shared by commentators in both camps is that, if ‘formal intuition’ denotes the unitary spatial framework of the Aesthetic, then it follows that this unitary space is the result of an act of synthesis. I challenge that assumption.

outer intuition – is a “brute given”¹² that admits of no further explanation.¹³ For this reason, I call this reading the Brute Given Reading. Whereas proponents of the Synthesis Reading hold that all forms of intuition, not just space and time, are necessarily unitary, proponents of the Brute Given Reading deny this.

Despite its highly esoteric character, more is at stake in this debate than the meaning of a few cryptic sentences in the B-Deduction. Because of the central role that the doctrine of the unity of space plays in the argument of the B-Deduction, how one interprets this doctrine has implications for the overall argument of the Transcendental Deduction. If Kant regards unity as a necessary feature of all forms of intuition, and he thinks this unity is in some sense derivable from a feature that is common to every discursive understanding, then he *does not* need to make a special appeal to the unity of space and time to show that we can apply the categories to all objects given in sensible intuition. Moreover, his conclusion is completely general: *all* discursive beings (not just humans) are able to apply the categories to *any* object of any sensible intuition (even non-spatio-temporal intuition). By contrast, if Kant does not regard unity as a necessary feature of all forms of intuition, then he *does* need to

¹² For this phrase, see Keller, *Kant and the Demands of Self-Consciousness*, 108. Keller ascribes the view that the unity of space is a brute given to Henry Allison.

¹³ Two contemporary proponents of a reading along these lines are Henry Allison and Lorne Falkenstein. See Allison, *Kant's Transcendental Idealism* (2004), 114–116, 189–193, and 482–483; Henry Allison, “Where Have All the Categories Gone? Reflections on Longuenesse’s Reading of the Transcendental Deduction,” [Where Have All the Categories Gone?] *Inquiry* 43 (2000): 67–80 (73ff.); Henry Allison, “Reflections on the B-Deduction,” in *Idealism and Freedom: Essays on Kant's Theoretical and Practical Philosophy* (Cambridge: Cambridge University Press, 1996), 27–40 (36–37); Lorne Falkenstein, “Kant’s Transcendental Aesthetic,” in *A Companion to Kant*, ed. Graham Bird (Oxford: Wiley-Blackwell, 2006), 140–53 (146); and Falkenstein, *Kant's Intuitionism*, 77–102, 244–252, and 383.

make a special appeal to the unity of space and time to show that we can apply the categories to all objects given in sensible intuition.

In this chapter, I offer a novel interpretation of Kant's account of the unity of space. In particular, I argue for (1) and (2) (as *per* the Synthesis Reading), but against (3) (*pace* both the Synthesis and the Brute Given Readings). I accept a modified version of (4). On my interpretation, which I call the Part-Whole Reading, a formal intuition is the same thing as a pure intuition. Just as space, for Kant, can be identified with either a pure intuition or its object, so can space be identified with either a formal intuition or its object. This claim commits me to (1). Furthermore, the two senses in which our formal intuition is a unity are identical with the two senses in which space is a unity: (i) our formal intuition is one representation that contains within it all intuitions of the parts of space (i.e. places), and (ii) our formal intuition has as its object one space that contains within it all parts of space. The difference between a formal intuition and what Kant calls a "form of intuition" at B160–161 (and some other places), is that the latter is a pure manifold of intuitions of parts of space. This manifold of intuitions is contained within our formal intuition of space, just as all the objects (various parts of space) of those intuitions are contained within a single spatial whole. These claims commit me to (2). Moreover, I agree with the first camp of commentators that the unity of space is grounded in the original synthetic unity of apperception. Nevertheless, I deny that it is the result of an act of synthesis. On my reading, the unity of space (in the two senses mentioned above) is an immediate consequence of the fact that the pure manifold of intuitions of parts of space that is

given to me at each moment always belongs to one and the same unitary discursive understanding. Though it is a condition of the unity of such an understanding that it *can* combine the given manifold of intuitions in one consciousness, the unity of space is not itself the result of an act of synthesis. The unity of space does, however, bring with it the *possibility* of a thoroughgoing synthesis. In this way, I deny (3), while accepting a slightly modified version of (4): the *possibility* of a figurative synthesis of the manifold of outer intuition is required by the original synthetic unity of apperception.

Such a construal of the relationship between the unity of space and the original synthetic unity of apperception makes considerable sense of Kant's cryptic remarks about the unity of space in the B-Deduction, and avoids the main problems that plague existing readings of these passages. Moreover, it fits much better with the details of Kant's development. Kant discusses the unity of space in a number of pre-Critical publications as well as in some unpublished reflections from the "silent decade" (the period between the publication of the *Inaugural Dissertation* and the first *Critique*). As I will show, Kant's claims about the unity of space in these texts reveal that, from early in his career to as late as the mid-1770's, he was deeply committed to the view that the unity of space is grounded in the unity of some type of understanding. This commitment remained constant despite Kant's change of mind about whether the understanding in question is an intuitive or a discursive one.

In §2, I introduce Kant's notion of the original synthetic unity of apperception; I then lay out and criticize the two main readings of Kant's remarks about the

relationship between the unity of space and the original synthetic unity of apperception. In §3, I present a new reading (the Part-Whole Reading) of these remarks and show how it avoids the problems that plague its rivals. In §4, I explicate Kant's pre-Critical account of the unity of space, showing that the early Kant is deeply committed to the view that the unity of space must have some ground, and indeed, an intellectual one. In §5 I draw on reflections from Kant's so-called silent decade to show that Kant retains this view after the Critical Turn, though he changes his mind about whether the relevant intellect is a divine or a discursive one. In §6, I explore some of the implications of my reading for the overall argument of the Transcendental Deduction. In §7, I take stock of the various elements of Kant's metaphysics of space as it has been reconstructed up to this point.

2. The Original Synthetic Unity of Apperception and the Unity of Space

In the Transcendental Deduction Kant attempts to show (1) that we can apply the categories to empirical objects given in spatial and temporal intuition; (2) that this application is objectively valid *a priori* (that is, we can use the categories to gain *cognition* of empirical objects); and (3) that the categories *only* have objective validity *a priori* for us with respect to empirical objects given in space in time (that is, we cannot use the categories *a priori* to cognize non-spatio-temporal objects and their relations).¹⁴ Though Kant had earlier argued in the Transcendental Aesthetic that our forms of intuition, space and time, are valid *a priori* for objects given in intuition, he

¹⁴ As we will see, the claim that we can only use the categories to cognize objects given in space and time does not preclude our being able to use the categories (in a way that does not lead to cognition) on objects of sensible intuition in general (not just spatio-temporal intuition).

thinks that a special argument is required to show this in the case of the categories, since these are not *a priori* forms by which objects are given in intuition but rather *a priori* forms by which they are *thought* (A87ff./B119ff.). The Transcendental Deduction is designed to banish the specter that the objects of empirical intuition are incongruous with our *a priori* forms of thought, rendering impossible *a priori* cognition of these objects.¹⁵ As we will see, establishing the objective validity of the categories requires showing not just that we can apply them to objects of sensible intuition – that is, that we can use the categories to *think* such objects. Since cognition, for Kant, is the *determination* of an object of intuition by means of the categories, Kant must also show that and how we can use the categories *a priori* to determine the objects of sensible intuition.

Kant's signature notion of the original synthetic unity of apperception (OSUA) plays a fundamental role in the B-Deduction. Though the details of Kant's argument are highly contentious, there is widespread agreement that his strategy involves establishing some sort of connection between the OSUA and the unity of space (and time). Getting clear on the nature of this relationship is crucial for understanding Kant's argument. As we will see, there are at least two radically different ways of construing this relationship, neither of which is obviously superior to the other. However, before turning to these competing readings, it is necessary to make some general remarks about the OSUA and its role in Kant's argument.

¹⁵ See Allison, *Kant's Transcendental Idealism* (2004), 159–163 and Evans, “Two Steps in One Proof,” 553–570, for a similar characterization of the task of the B-Deduction.

2.1. Introducing the OSUA

Towards the beginning of the B-Deduction, Kant introduces the “original synthetic unity of apperception” (OSUA). This term has a two-fold sense.¹⁶ On the one hand, it refers to a condition that the manifold of representations given in an intuition (the “manifold of intuition,”¹⁷ for short) must satisfy, so long as the manifold is to be *mine* (*qua* thinking subject): I must be able to combine the given manifold of representations in one consciousness.¹⁸ As Kant writes, “only because I can comprehend their manifold in a consciousness do I call them all together my representations” (B134). Kant illustrates what he means by “combination in one consciousness” with a geometrical example:

Thus, the mere form of outer sensible intuition, space, is not yet cognition at all; it only gives the manifold of intuition *a priori* for a possible cognition. But in order to cognize something in space, e.g., I must draw it, and thus synthetically bring about a determinate combination of the given manifold, so that the unity of this action is at the same time the unity of consciousness (in the concept of a line) and thereby is an object (a determinate space) cognized. (B137–138)

When I draw a line in space in accordance with my concept of a line, this is an instance of combining a given manifold of intuition in one consciousness. Here the given manifold is a set of representations of parts of space. The relevant parts of space are indeterminate prior to my act of combination but determined as a line at the completion of my act. What makes this *one* act of combination – i.e. combination *in*

¹⁶ Commentators tend to focus on (what I call) the “condition” sense of the OSUA. I do not know of other commentators who clearly distinguish between this sense and (what I call) the “property” sense of the OSUA.

¹⁷ Kant talks about the “manifold of representations that are given in a certain intuition” at B132 (see B129 and B143 for examples of similar phrases). A few sentences earlier in B132, he uses the phrase “manifold of intuition.”

¹⁸ For a similar gloss on the OSUA (in the condition sense), see Carl, “Die transzendente Deduktion,” 194–195.

one consciousness – is the fact that it is guided by a concept. Understood as a condition on the manifold of intuition, the OSUA says that I must be able to perform a similar act of combination on the manifold of representations given in any intuition, so long as the manifold in question is *mine*. According to Kant, this is “the supreme principle of all intuition in relation to the understanding” (B136).

According to the second sense of the term, the OSUA refers to the property in virtue of which the above condition holds: a kind of unity that is distinctive of a self-conscious *thinking* subject, that is, a discursive understanding. As Kant explains in the B-Deduction, a discursive understanding is one that cannot cognize an object unless it is given a manifold of intuition by a separate faculty of sensibility. A discursive understanding does not, as it were, produce a manifold of intuition along with the object of its cognition, merely by representing itself.¹⁹ By contrast, an intuitive understanding does precisely that; it does not depend on sensibility for the manifold of intuition because it creates this manifold through its self-consciousness. According to Kant, it is this difference that accounts for the fact that our intuitions are subject to the principle of the original synthetic unity of apperception, whereas God’s are not:

That understanding through whose self-consciousness the manifold of intuition would at the same time be given, an understanding through whose representation the objects of this representation would at the same time exist, would not require a special act of synthesis of the manifold for the unity of consciousness, which the human understanding, which merely thinks but does not intuit, does require. (B138–139)

¹⁹ For discussion of this point, see Henrich, “The Proof-Structure,” 646.

Like a discursive understanding, an intuitive understanding has a unity, but its unity is not such that it must synthesize a manifold of intuition in order to cognize an object. By contrast, since a discursive understanding can only cognize an object if a manifold of intuition is given to it by sensibility, it must combine the given manifold of intuition in one consciousness in order to cognize an object. Since a manifold of intuition cannot belong to a discursive understanding unless it is an at least possible object of its cognition, it follows that it must be able to combine in one consciousness any manifold of intuition that belongs to it. In this way, the OSUA (in the property sense) is responsible for the OSUA (in the condition sense). Kant's name for this combination in one consciousness, one example of which is drawing a line in space in accordance with the concept 'line', is the figurative synthesis (or *synthesis speciosa*) (B151). An act of the figurative synthesis results in what Kant calls a determinate intuition (B154).²⁰

Because the manifold of intuition is given to a discursive understanding *via* a separate faculty of sensibility, the specter arises that it might not be combinable in one consciousness.²¹ The OSUA (in the condition sense) says that if it belongs to me *qua* thinking subject, then it is combinable. But it is not immediately clear when (if at all) the antecedent is fulfilled. Kant's argument in the B-Deduction involves showing, on the one hand, that this sort of combination (figurative synthesis) requires the use of the

²⁰ Kant seems to think that there are two species of determinate outer intuitions: *a priori* and *a posteriori*. The former are cognitions of geometrical objects attained by constructing them in pure intuition; the latter are perceptions (see, e.g., B160–163). For further discussion of this point, see Chapter 3.

²¹ See Allison, *Kant's Transcendental Idealism* (2004), 159–162; Evans, "Two Steps in One Proof," 559–563; and Henrich, "The Proof-Structure," 646–647.

forms of the understanding (the categories), and on the other hand, that any manifold given in space and/or time belongs to me and is thus combinable. Considerations about the unity of space arise in the context of Kant's discussion of the latter point.

At several moments in the B Deduction, Kant appears to be saying that the unity of space is dependent on the OSUA (in the property sense). For instance, in a footnote to the section labeled "the principle of the synthetic unity of apperception is the supreme principle of all use of the understanding," Kant argues that, since space is an intuition and intuitions are unitary, the OSUA is "to be found" in space (B136n). But what the latter claim amounts to, and what the relation is between the unitary intuition mentioned here and the space whose unity Kant discusses in the Transcendental Aesthetic, are matters of considerable controversy.

A key passage in this dispute is the following:

But space and time are represented *a priori* not merely as *forms* of sensible intuition, but also as *intuitions* themselves (which contain a manifold) and thus with the determination of the *unity* of this manifold in them (see the Transcendental Aesthetic).*

* Space, represented as *object* (as is really required in geometry), contains more than the mere form of intuition, namely the *comprehension* of the manifold given in accordance with the form of sensibility in an *intuitive* representation, so that the *form of intuition* merely gives the manifold, but the *formal intuition* gives unity of the representation. In the Aesthetic I ascribed this unity merely to sensibility, only in order to note that it precedes all concepts, though be to sure it presupposes a synthesis, which does not belong to the senses but through which all concepts of space and time first become possible. For since through it (as the understanding determines the sensibility) space or time are first *given* as intuitions, the unity of this *a priori* intuition belongs to space and time, and not to the concept of the understanding (§24). (B160 and B160–161n)

Kant introduces here a distinction between space as a *form of intuition*, which “merely gives the manifold” and space as a *formal intuition*, which “gives unity of the representation,” or as he also says, has the “determination of the unity of this manifold.” According to Kant, the unity of a formal intuition “presupposes a synthesis,” though it “belongs to space ... and not to the concept of the understanding” (B161n).

2.2. Two Readings

Though there are many subtle variations, most interpretations of this passage fall into two general types. According to the first sort of interpretation, which I call the Synthesis Reading, Kant is here offering a “re-reading” (to use Beatrice Longuenesse’s term)²² of his account of space in the Transcendental Aesthetic. Whereas in the Transcendental Aesthetic Kant characterizes the unitary spatial framework that encompasses all of our outer intuitions as a form of *outer intuition*, implying that it is, at least in part, independent of the *understanding*, in the Transcendental Analytic Kant changes his tune, or so Longuenesse and like-minded commentators claim. He now claims that (1) this unitary space *is* a formal intuition (or its object); (2) the unity of space is identical with the unity of a formal intuition; (3) the unity of a formal intuition is the result of an act of figurative synthesis; and (4) this act of synthesis is required by the OSUA. According to the Synthesis Reading, the

²² Longuenesse, “Synthesis and Givenness,” 67 and Longuenesse, *Kant and the Capacity to Judge*, 213.

unity of space is grounded directly in the figurative synthesis and indirectly in the OSUA, which is the basis for this synthesis.²³

As for the relationship between a form of intuition and a formal intuition, proponents of the Synthesis Reading tend to think that, so long as a form of intuition is a unity, it is the same thing as a formal intuition.²⁴ Such a claim might appear to be in obvious conflict with the above passage, where Kant explicitly contrasts space as a form of intuition and space as a formal intuition. But this apparent conflict can be easily resolved by pointing out that the term ‘form of intuition’ has different meanings, a point that is acknowledged by proponents of both readings.²⁵ When Kant distinguishes space as a form of intuition and space as a formal intuition, he is relying on a meaning of ‘form of intuition’ according to which it lacks unity. (He sometimes uses the phrase ‘*mere* form of intuition’ to indicate that the term is being used in this particular sense, for instance, at B137, B154, and B160n.) On most other occasions (for instance, in the Transcendental Aesthetic), he uses the term as a synonym for formal intuition. A good example of this usage is the following remark: “Space is merely the form of outer intuition (formal intuition)...” (A429/B457).

According to the second type of interpretation, which I call the Brute Given Reading, Kant is not revising his account of space in the Aesthetic, but rather

²³ This interpretation is given its clearest, most explicit and (I think) most defensible formulation in Longuenesse, “Synthesis and Givenness,” 66–73 and Longuenesse, *Kant and the Capacity to Judge*, 212–225. A similar interpretation can be found in Keller, *Kant and the Demands of Self-Consciousness*, 110; Waxman, *Kant’s Model of the Mind*, 79ff.; McDowell, “Hegel’s Idealism,” 73–76; and McDowell, “The Logical Form of an Intuition,” 27–30.

²⁴ See, e.g., Longuenesse, “Synthesis and Givenness,” 67 and Longuenesse, *Kant and the Capacity to Judge*, 216–220.

²⁵ See, e.g., Longuenesse, “Synthesis and Givenness,” 69–70; Longuenesse, *Kant and the Capacity to Judge*, 220–222; and Allison, *Kant’s Transcendental Idealism* (2004), 115.

providing an account of what is required in order to have a determinate intuition of the space he discusses in the Aesthetic. For commentators who adopt this reading, the latter is to be identified not with a formal intuition but rather with the ‘form of intuition’ that he contrasts with it at B160–161 and elsewhere. Space as a form of intuition is supposed to be given to us by sensibility as already unitary; its unity is not supposed to depend on the OSUA, or on the understanding and imagination more generally. It is a brute fact. Commentators who adopt the Brute Given Reading agree with commentators who hold the Synthesis Reading that a formal intuition is the result of an act of figurative synthesis, and that the figurative synthesis is (somehow) grounded in the OSUA. However, they identify a formal intuition with what Kant calls a “determinate intuition” (for example, at B154), which they understand to be the result of taking up (some portion of) the unitary space of the Aesthetic into consciousness, and subsuming it under a concept (like ‘triangle’).²⁶ A determinate intuition is then a conceptualized representation of a determinate part of space. Proponents of the Brute Given reading thus accept (3) and (4), but deny (1) and (2). For them, the unity of space is not grounded in the OSUA; it is a fundamental property that has no deeper basis.

2.3. Evaluation

²⁶ See Allison, *Kant's Transcendental Idealism* (2004), 114–116, 189–193, and 482–483; Allison, “Where Have All the Categories Gone,” 73ff.; Allison, “Reflections on the B-Deduction,” 36–37; Falkenstein, “Kant's Transcendental Aesthetic,” 146; and Falkenstein, *Kant's Intuitionism*, 77–102, 244–252, and 383.

Though each of these readings has been integrated into a plausible reconstruction of the argument of the Transcendental Deduction, neither is satisfactory. Let's start with the Brute Given Reading. Proponents of this reading deny that the unitary space of the Aesthetic is a formal intuition (or the object of one).

However, Kant says explicitly that this space is an intuition in the B-Deduction:

Space and time and all their parts are intuitions, thus individual representations along with the manifold that they contain in themselves (see the Transcendental Aesthetic), thus they are not mere concepts by means of which the same consciousness is contained in many representations, but rather are many representations that are contained in one and in the consciousness of it; they are thus found to be composite, and consequently, the unity of consciousness, as *synthetic* and yet as original, is to be found in them. This *singularity* of theirs is important in its application (see §25). (B136n)

In referring to the Transcendental Aesthetic for the claim that “space and time and all their parts are intuitions, thus individual representations” Kant is alluding specifically to the third and fourth arguments of the MECS in the Transcendental Aesthetic. In these arguments, Kant appeals to the unity of our representation of space in order to show that this representation is an intuition. It is clear from these arguments, as well as Kant's allusion to them in the passage just quoted, that Kant means two things by the unity of our intuition of space. First, this intuition picks out just one space, which precedes and contains within it all parts of space (i.e. places). Second, this intuition is itself unitary: it is *one* representation.

While it might come as a surprise that Kant is here calling the parts of space “intuitions,” it should come as no surprise that he is here calling the space that contains them an intuition. As we have seen, Kant often describes space as a *pure*

*intuition*²⁷ (though, as I have noted repeatedly, he sometimes identifies it with the *object* of a pure intuition). Proponents of this reading may not wish to deny that the unitary space of the Aesthetic is at once a form of intuition and a pure intuition. But if they do not, they need to deny that the space of the Aesthetic is a *formal* intuition. The trouble is that this is extremely implausible. First, I know of no reason not to think that “pure intuition” and “formal intuition” are synonyms. Second, the footnote in which Kant distinguishes between form of intuition and formal intuition is attached to a sentence where Kant distinguishes between space and time “represented as *forms* of intuition” and space and time “represented as *intuitions*” (B160). By “intuitions” here, Kant clearly means formal intuitions. Given the obvious parallels between this remark about the unity of space and the remark that occurs at B136n, it is natural to think that the intuitions or “individual representations” he mentions there are formal intuitions as well.

In sections 4 and 5, I will provide further reason for rejecting the central tenet of the Brute Given Reading: the unity of space is fundamental, and thus not grounded in the OSUA. On this point, I am in agreement with proponents of the Synthesis Reading. I also agree with them that the unitary space of the Aesthetic is a formal intuition (or its object), and that the unity of space is identical with the unity of a formal intuition. On my view, the two senses in which a formal intuition is unitary are the same as the senses in which space is a unity. I thus accept (1) and (2) above. However, serious problems arise in connection with (3). Perhaps the least serious problem is that the figurative synthesis, which Kant describes as “an effect of the

²⁷ See, e.g., A20/B34–35, A27/B43, A373, and A494/B522.

understanding on sensibility” (B152), must somehow involve the categories, and yet the unity of a formal intuition (and thus of space) is supposed to “precede all concepts” and in particular is supposed not to “belong to ... the concept of the understanding” (B161n).²⁸ As we saw above, a paradigm example of the figurative synthesis is drawing a line in space in accordance with the concept of a line. For Kant, concepts of spatial figures fall under the genus of categories of quantity; thus, if the unity of space is the result of an act of figurative synthesis, there is a clear sense in which it does “belong” to a concept of the understanding. However, proponents of the Synthesis Reading can get around this problem by distinguishing between the categories as full-blown “reflective” concepts and the categories as pre-discursive “guides” of the figurative synthesis, and by maintaining that only the former are required for the unity of a formal intuition (and thus the unity of space).²⁹ This allows them to interpret Kant’s claim that the unity of a formal intuition is prior to concepts as a claim that the unity of a formal intuition is prior to full-blown reflective concepts, rather than prior to concepts *überhaupt*.

A more serious problem is that the unitary space of the Aesthetic is a whole that precedes its parts (A25/B39) and yet the figurative synthesis, which Kant discusses in the Axioms of Intuition under the guise of a “successive synthesis of the productive imagination,” is said to generate *extensive magnitudes* (A163/B204).³⁰ An extensive magnitude is one “in which the representation of the parts makes possible

²⁸ Cf. Allison, “Where Have All the Categories Gone,” 76–78.

²⁹ See, e.g., Longuenesse, *Kant and the Capacity to Judge*, 224–226.

³⁰ See Keller, *Kant and the Demands of Self-Consciousness*, 110 and Falkenstein, *Kant’s Intuitionism*, 82 for a discussion of this problem.

the representation of the whole (and necessarily precedes the latter)” (A162/B203). A paradigm example of such a magnitude is a figure, like a line; indeed, the “figurative synthesis” is so-called because it is responsible for “the generation of shapes” (A163/B204). If the characteristic product of the figurative synthesis is an extensive magnitude of this sort, it is extremely difficult to see how it could be responsible for the unitary space of the Aesthetic, since this space is not itself an extensive magnitude. Instead, such extensive magnitudes are the result of constructing spaces (like lines and triangles) within the unitary space of the Aesthetic. As Kant says in a set of notes that he wrote to assist his disciple Johann Schulze in Schulze’s review of Eberhard’s *Philosophisches Magazin*, this space “cannot be brought under any concept capable of construction,” but is instead “the ground of all possible constructions” (Ak. 20:420).³¹ Given that it produces extensive magnitudes, it is natural to identify the figurative synthesis with “construction in accordance with a concept.” But once we do so, we must deny that it is the ground of the unitary space of the Aesthetic.

A closely related problem is that the unitary space is supposed to be an infinite magnitude (A25/B39). But we cannot complete an infinite synthesis, as Kant says in the Antinomy Chapter (A430/B458).³² In the case of the figurative synthesis, this means that every result of such a synthesis has a finite magnitude. Kant says as much in his notes for Schulze (mentioned above): “[G]eometrical and objectively given

³¹ For further discussion of the passage from which this quotation comes, see Michael Friedman, “Geometry, Construction, and Intuition in Kant and His Successors,” in *Between Logic and Intuition: Essays in Honor of Charles Parsons*, ed. Gila Sher and Richard Tieszen (Cambridge: Cambridge University Press, 2000), 186–217 (188ff.).

³² Keller (*Kant and the Demands of Self-Consciousness*, 110) makes a similar point. Keller thinks the only way that Kant can reconcile the synthetic nature of space and time with their status as infinite given wholes is to elevate unitary space and time to the status of ideas of reason. I shall argue for a much less drastic resolution of the apparent problem.

space is always finite. For the latter is only given in so far as it is generated” (Ak. 20:420). This is then another reason for thinking that the unitary space of the Aesthetic could not be the result of an act of figurative synthesis.

A general problem with the Synthesis Reading arises in connection with the “form of intuition” that Kant contrasts with a formal intuition. (In order to avoid confusion, henceforth I will write ‘form of intuition_b’ to indicate when I am using the term in the sense that Kant uses it in the B-Deduction, where it is contrasted with a formal intuition.) Proponents of the Synthesis Reading do not say much about what a form of intuition_b is. An important exception is Longuenesse, for whom the relationship between a form of intuition_b and a formal intuition is that of potentiality to actuality. As I understand her view, Longuenesse thinks that the term ‘form of intuition’ is being used at B160–161 to denote our receptive faculty’s potential for representing a manifold of things in a spatial manner. In order to be actualized, this potential requires affection from both outside and inside – our receptive capacity must be acted on by things in themselves (affection from outside) as well as by our understanding in the guise of the figurative synthesis (affection from inside). For Longuenesse, the result of such actualization is a formal intuition.³³

However, it is not obvious that a form of intuition_b is a mere *potential* to represent. Instead, Kant seems to be using the term ‘form of intuition’ (=form of intuition_b) at B160–161 to denote a representation, or rather, a manifold of representations. In the passage where he introduces the distinction between form of

³³ Longuenesse, “Synthesis and Givenness,” 69–72 and Longuenesse, *Kant and the Capacity to Judge*, 220–222.

intuition_b and formal intuition, Kant says that “space and time are *represented a priori* [my emphasis] not merely as *forms* but also as intuitions themselves” (B160). Given this claim, as well as Kant’s statement that “form of intuition merely gives the manifold,” it makes more sense to identify form of intuition_b with what he calls “the manifold of pure intuition” at various points in the *Critique*. I will have more to say about this below.

3. The Part-Whole Reading

In this section, I present a new reading that is not subject to the problems facing other readings and that fits with Kant’s remarks in the *Critique* about the unity of space. (It also fits with Kant’s remarks about the “manifoldness of space” at A107 and elsewhere.) I call my reading the Part-Whole Reading. In subsequent sections, I offer an account of the development of Kant’s views about the unity of space that provides additional support for the Part-Whole Reading.

According to the Part-Whole Reading, the relationship between space as a formal intuition and space as a form of intuition_b is that of a whole to its parts. Depending on whether we identify space with a formal intuition or with the object of such an intuition (a spatial whole), the parts of space are either the *intuitions* of places contained within this formal intuition or the places themselves. For convenience sake, I will identify space with a formal intuition, which means that the *unity of space* is a matter of the “oneness” of this representation, the fact that it contains all intuitions of

places within it.³⁴ A form of intuition_b is then a particular subset of parts of space: namely, the set, or manifold, of intuitions of places that is given to me *a priori* at a particular moment.³⁵

Kant's commitment to the existence of such a "pure manifold" is clear from the following passage: "The first thing that must be given to us *a priori* for the cognition of all objects is the *manifold* of pure intuition; the *synthesis* of this manifold by means of the imagination is the second thing" (A78–79/B104).³⁶ Kant seems to think that whenever a manifold of outer empirical intuition (a manifold of sensations) is given to me, these sensations are given along with a manifold of pure intuition (i.e. a form of intuition_b). Apparently, the latter manifold consists of the intuitions of places given to me at some moment, each of which intuition has some sensation as its content and as its object some matter-filled place. According to Kant, this manifold of intuitions must be synthesized if I am to have a determinate empirical intuition of, say, a house. I must, as it were, determine these matter-filled places to be in the shape of a house by unifying the manifold of intuition in accordance with the concept of a house. As Kant writes:

Thus if, e.g., I make the empirical intuition of a house into perception through apprehension of its manifold, my ground is the *necessary unity* of space and of outer sensible intuition in general, and I as it were draw its shape in agreement with this synthetic unity of the manifold in space. (B162)

³⁴ The following explanation of the Part-Whole Reading could also be reworded for one who wanted to identify space with the *object* of a formal intuition.

³⁵ In case this sounds (overly) mysterious, take the set of representations of places that you are having at this instant when you perceive the world around you and abstract from them all empirical content and determinate features (i.e. their specific shape, magnitude, and relations). Now imagine that these indeterminate representations of places were given to you *a priori* before your act of perception. That manifold of representations is an instance of a form of intuition_b.

³⁶ A similar remark occurs at B145.

The same thing is required if I am to have a determinate intuition of a geometrical object like a line (as, say, when I am doing geometry): First, I must be given *a priori* the manifold of intuitions of places that I plan to connect. Second, I must determine the figure and magnitude of these places by combining their corresponding intuitions in accordance with the concept ‘line’. As Kant writes,

Thus, the mere form of outer sensible intuition, space, is not yet cognition at all; it only gives the manifold of intuition *a priori* for a possible cognition. But in order to cognize something in space, e.g., a line, I must *draw* it, and thus synthetically bring about a determinate combination of the manifold, so that the unity of this action is at the same time the unity of consciousness (in the concept of a line), and thereby is an object (a determinate space) first cognized. (B137–138)

The result of this act of synthesis (which Kant likens to “drawing”) is a determinate *a priori* intuition: *a priori* cognition of a determinate part of space (namely, the line I have constructed). Whereas in the house example, I am given a pure manifold along with an empirical one, in the geometrical example, I am only given a pure manifold.

On the Part-Whole Reading, this pure manifold is what Kant calls a “form of intuition” (=form of intuition_b) at B160–161 and at other times a “mere form of intuition” (for instance, at B137 and B154). The set of intuitions of places given to me at each moment is, like all parts of space, contained within my formal intuition.

This reading fits quite well with Kant’s claim that space is “many representations that are contained in one” (B136) as well as his claim that space as a formal intuition “contain[s] a manifold” (B160). This reading also fits with Kant’s claim that the form of intuition_b “gives the manifold,” a claim which he makes at least twice in the B-Deduction (see B137 and B160n). Space as a form of intuition_b “gives

the manifold” in at least two senses. First, it is itself a manifold of parts of space that is given *a priori* by sensibility. Thus, to have such a form of intuition_b is to be given *a priori* a manifold of parts of space. Second, this given manifold of spatial parts is what grounds the “multiplicity and numerical difference” of the objects of outer cognition, where these objects can be either purely geometrical objects or empirical ones

(A264/B320). As Kant writes:

[A] part of space, even though it might be completely similar and equal to another, is nevertheless outside of it, and is on that account a different part from that which is added to it in order to constitute a larger space; and this must therefore hold of everything that exists simultaneously in the various positions in space, no matter how similar and equal they might otherwise be. (A264/B320)

Ultimately, what makes it the case that one outer object is distinct from another is that they are in different parts of space (what makes these different, in turn, is that they are *outside of one another*). This holds likewise for the parts of a particular object: if two parts of one object are in different parts of space, the former are *ipso facto* numerically distinct, even if they are exactly alike with respect to all their qualitative features. It is this feature of space as a form of intuition_b (a given manifold of parts of space) that Kant has in mind when he says that “the manifoldness of space ... grounds the intuitions of sensibility” (A107). Space as a form of intuition_b – a manifold of places that are outside of, and therefore numerically distinct from, one another – is responsible for the fact that the manifold of outer empirical intuition is a *manifold of numerically distinct material objects (i.e. bodies)*.

Kant seems to think that there is no ground outside of the peculiar nature of our sensibility for why our form of outer intuition is space,³⁷ nor for why the manifold of spatial *partes extra partes* that our sensibility gives us on a particular occasion is a *manifold*.³⁸ The fact that two parts of space that are outside of one another are numerically distinct from one another (along with whatever things are in them) is a law of *our sensibility* (A236–264/B319–B320). It admits of no explanation through laws or features of a discursive understanding as such. In this respect, the manifoldness of space is, quite literally, *irrational*: it is a violation of the principle of sufficient reason.

But the *unity* of space is another story. Recall that the unitary space of the Aesthetic is a formal intuition, and that the unity of space is identical with the unity of a formal intuition. According to Kant, “the manifold that is given in a sensible intuition necessarily belongs under the original synthetic unity of apperception, since through this alone is the unity of the intuition possible” (B143). The idea here is that the manifold of representations given in an intuition cannot be parts of a unitary intuition unless they all belong to some unitary discursive understanding, that is, an understanding that has the OSUA (in the property sense). Since a formal intuition is a unitary intuition, any manifold of parts that is given within it “necessarily belongs under the original synthetic unity of apperception.” Space would not be a unity were it

³⁷ See, e.g., B150: “But since in us a certain form of sensible intuition *a priori* is fundamental, which rests on the receptivity of the capacity for representation (sensibility)....” Cf. B72 and B146. See McDowell, “Hegel’s Idealism,” 75–76 and Paul Franks, *All or Nothing: Systematicity, Transcendental Arguments, and Skepticism in German Idealism [All or Nothing]* (Cambridge, Massachusetts: Harvard University Press, 2005), 58–59 for a discussion of this point.

³⁸ Franks (*All or Nothing*, 74) makes a point similar to this one.

not for the fact that, whenever a manifold of parts of space is given *a priori*, the manifold belongs to some discursive understanding endowed with the OSUA. When the manifold in question is given to *me*, then *I* am the relevant unitary discursive understanding.

In this way, the OSUA is a necessary condition of the unity of *space* (not merely of our *representation* of space).³⁹ It is also a *sufficient* condition of the unity of space in the case of beings that have space as their of intuition_b. In fact, the OSUA guarantees that *every* form of intuition_b (or pure manifold) given to a discursive creature, no matter what type (spatial, temporal, or something radically different), will be contained in a unitary formal intuition.⁴⁰ For, whenever a pure manifold is given to a discursive creature, it must satisfy the OSUA (in the condition sense) – the creature must be able to comprehend the manifold of intuitions as parts of its consciousness. But if a creature is to be able to do that, the intuitions must be given as *parts* of some single representation that belongs to the creature: a formal intuition. In this way, every formal intuition is grounded in the OSUA. Since the unitary space of the Aesthetic is a type of formal intuition, its unity is grounded in the OSUA. Whenever a manifold of intuitions of places is given to me *a priori* (a form of intuition_b), the OSUA is necessary and sufficient for there being a unitary space that contains them: space as a formal intuition. By contrast, space as a form of intuition_b is not grounded in the

³⁹ This is true even if space is identified with the object of a formal intuition (rather than the formal intuition itself). This is because the properties of the object (e.g. its unity) are grounded in corresponding properties of the formal intuition itself (in particular, its oneness, the fact that it contains all intuitions of parts of space within itself). Insofar as the oneness of a formal intuition is itself grounded in the OSUA, the unity of its object (which we are assuming to be space) will be as well.

⁴⁰ McDowell (“Hegel’s Idealism,” 77) seems to take this view as well.

OSUA, or in any other feature of a discursive understanding. This explains why Kant does not think we can demonstrate that all creatures with a discursive understanding necessarily have space as their form of outer intuition.⁴¹

Crucially, the claim that the unity of space is grounded in the unity of the discursive understanding does not entail that the unity of space is the result of the figurative synthesis. As we have seen, the unitary space of the Aesthetic could not be produced by an act of figurative synthesis. What does follow from the fact that a given manifold of spatial parts belongs to a unitary discursive understanding is that this understanding *must be able* to combine it in one consciousness – that is, it must be able to combine it in an act of figurative synthesis. This conclusion is a straightforward consequence of the OSUA in the condition sense. As Kant writes:

The thought that these representations given in intuition all together belong to me means, accordingly, the same as that I unite them in a self-consciousness, or at least *can* unite them therein, and although it is not yet the consciousness of the synthesis of the representation, it still *presupposes the possibility of the latter*, i.e., only because I *can* comprehend their manifold do I call them all together my representations. (B134)

When a manifold of spatial parts/intuitions is given to me *a priori* by my sensibility, then I must be able to combine it in one consciousness. As we have seen, Kant calls this sort of combination the figurative synthesis, because it transforms a given manifold of spatial parts into a determinate figure (like a triangle or a house). The result of such synthesis is a determinate intuition of an outer object. Insofar as the unity of space depends on the OSUA (in the property sense), it “presupposes the

⁴¹ I thus agree with Allison that “we cannot infer the unity of time (or space) from the unity of consciousness.” See Allison, “Reflections on the B-Deduction,” 37.

possibility” of my carrying out a figurative synthesis on any manifold of spatial parts that is given to me, and thus the possibility of my transforming this given manifold into a determinate intuition of an outer object. It is in this sense that the unity of space is a “synthetic unity.” It is not a unity produced by synthesis; it is a unity that is grounded in the OSUA (in the property sense) and which, for this reason, requires the *possibility* of the combination of any manifold of parts/intuitions that is given within it. This is precisely what we find Kant saying in the following remark:

The supreme principle of all intuition in relation to the understanding is that all the manifold of intuition stand under conditions of the original synthetic unity of apperception. All the manifold representations of intuition stand under the first principle [which says that all the manifold of sensibility stand under the formal conditions of space and time] insofar as they are *given* to us, and under the second [which says that all the manifold stand under conditions of the original synthetic unity of apperception] insofar as they must be capable of being *combined* in one consciousness. (B136)

4. The Unity of Space in Kant’s Pre-Critical Publications

According to the Part-Whole Reading, the Critical Kant holds (1) and (2), but rejects (3): the unity of space is not the result of an act of synthesis. In addition, he accepts only a modified version of (4): the *possibility* of a figurative synthesis of the manifold of outer intuition is required by the original synthetic unity of apperception. In the next two sections, I provide additional support for the main features of the above reading by considering Kant’s earlier (that is, pre-1781) views about the unity of space. I look first at what Kant says about the unity of space in his pre-Critical publications (namely, *Thoughts on the True Estimation of Living Forces*, the *New Elucidation*, *The Only Possible Argument*, and the *Inaugural Dissertation*), and then

look at what Kant says in various *Reflexionen* from the silent decade. As I will show, throughout his early career, Kant holds that (i) the existence of a unitary space entails that there is some unitary representation that contains every part of space; (ii) the unity of this representation is grounded in the unity of an understanding; and (iii) the unity of this representation is not the result of an act of synthesis. These commitments remain constant, along with a general commitment to the idea that the unity of space admits of some explanation, despite the massive changes that took place in Kant's thinking during this period. In addition to supporting the Part-Whole Reading, the details of Kant's development lend considerable plausibility to the account of the ground of the unity of space that Kant gives in the Transcendental Deduction is a *metaphysical account*.

4.1. *Thoughts on the True Estimation of Living Forces* [1747], the *New Elucidation* [1755], and the *Physical Monadology* [1756]

For my purposes, these texts can be treated together, because Kant endorses roughly the same account of space in all of them: space is an order of co-existing substances.⁴² Kant's view at this time is that the order in question is constituted by "the interconnected actions of substances" (Ak. 1:415). (As Kant makes clear in the *Physical Monadology*, the substances in question are physical monads – simple substances that, unlike Leibnizian monads, really influence one another.) According to this view, substances do not have spatial locations relative to one another, and thus, do not belong to the same spatial order, unless they determine one another's states

⁴² I have found Friedman, *Kant and the Exact Sciences*, 5ff. and Buchdahl, *Metaphysics and the Philosophy of Science*, 580ff., especially helpful for understanding Kant's pre-Critical account of space.

through the action of their respective forces. Kant holds further that the parts of physical space are parts of the causal activity by means of which the substances influence one another (Ak. 1:480).

Kant's account of the unity of space at this time is shaped by his views about the nature of substance and about what is required for a set of substances to interact causally with one another. Kant holds that "individual substances ... have a separate existence, that is to say an existence which can be completely understood independently of all other substances" (Ak. 1:413). Because the existence of each substance is ontologically and conceptually independent of the others, the interaction of a set of existing substances does not follow from the mere fact that each of the members of the set exists. Indeed, Kant thinks it is metaphysically possible for several substances to exist without causally interacting; in such a scenario, the substances would not have any location in space. Kant also thinks it is metaphysically possible for there to exist two or more sets of substances such that the members of each set interact with one another but not with the members of any other set. In such a scenario, the substances constituting each set would have a spatial location relative to the other members of the set, but they would not have a spatial location relative to the members of any other set. If this were the case, space would not be unitary; there would be no spatial path connecting the members of different sets.

Kant argues that the mutual interaction of ontologically distinct substances "depends on a communality of cause, namely on God, the universal principle of

beings” (Ak. 1:413).⁴³ That is, substances can only interact with one another if they are created by the same being. But the mere existence of a common creator on its own is not sufficient to establish a reciprocal causal connection among individual substances, since God, according to Kant, could have created individual substances without their being connected. The causal interaction of substances requires in addition that “the self-same schema of the divine understanding, which gives existence, also established the relations of things to each other, by conceiving their existence as correlated with one another” (Ak. 1:413). Kant thus takes the fact that all existing substances interact with one another to imply that God is endowed with a creative understanding, by means of which He can create substances and their relations in the act of representing them.

Kant calls God’s creative representation of a set of substances a *schema*. The object of a schema is a world, a (maximal) set of causally interconnected substances. For Kant, it is ultimately God’s choice whether to create in such a way that existing substances interact with one another and thus belong to the same world (by representing them all in one schema), or to create separate worlds of causally interacting substances (by representing some in one schema and others in another), or to create in such a way that no substance interacts with any other (by representing each in its own schema). Because the unity of space depends on God’s decision in this regard, the unity of space is not metaphysically necessary. If God chooses to represent all substances in one schema, then all existing substances belong to one space;

⁴³ See Watkins, *Kant and the Metaphysics of Causality*, 140–155 and Eric Watkins, “Kant’s Theory of Physical Influx,” *Archiv für Geschichte der Philosophie* 77 (1995): 285–324 (292–299) for an illuminating explication of this claim as well as of Kant’s various arguments on its behalf.

otherwise, there will be many (disconnected) spaces, or no space at all (if no existing substance stands in mutual interaction with any other).

At this early stage in his career, then, Kant neither regards the unity of space as metaphysically necessary nor as a brute fact. In the (contingent) circumstance where only one space exists, there is a deeper metaphysical ground for this unity: the thoroughgoing mutual interaction of all existing substances. In order for there to be such a thoroughgoing mutual interaction, all the substances that exist, along with their causal activities, must be contained in a unitary divine schema, to which they all owe their existence. The unity of this schema, in turn, is grounded in the unity of the divine understanding, since this is the only way that it can be *one* representation (as opposed to many separate representations).

4.2. *The Only Possible Argument* [1763]

By the time of *The Only Possible Argument*, Kant has changed his mind about the modal status of the unity of space. Whereas he had earlier regarded it as arbitrary (dependent on God's will) and contingent, he now regards it as metaphysically necessary.⁴⁴ One might expect that this new necessitarianism would lead Kant to abandon his earlier view that the unity of space has a ground. But it does not. By Kant's lights, once the unity of space is regarded as necessary it becomes that much more puzzling and that much worthier of an explanation.

⁴⁴ He has also apparently changed his mind about the modal status of the three-dimensionality of space, which he regarded as contingent in *Thoughts on the True Estimation of Living Forces*. See Ak. 2:71.

This sentiment is especially evident in the following passage, which follows a discussion of various geometrical problems involving circles:

The purpose of our discussion has been to draw attention to the existence, in the necessary properties of space, of unity alongside the highest degree of complexity, and of the connection between things where all seem to have their own separate necessity. To achieve this objective, we have focused our attention on the figure of the circle alone, which has infinitely many properties of which only a small number is known. From this we can infer how immeasurably great is the number of the harmonious relations which inhere in the properties of space in general.... If, in the case of such arrangements in nature, we are justified in searching for the foundation of the extensive harmony of the manifold, are we less justified in searching for a similar foundation for the regularity and unity which we perceive in the infinitely various determinations of space? Is this harmony any the less amazing for being necessary? (Ak. 2:96)

For Kant, what is amazing about circles is that, though they are very simple to construct, they have a seemingly inexhaustible store of necessary and “harmonious” properties, properties expressed in the many interlocking theorems that geometers (and physicists) are continually demonstrating of them and then relying on in order to demonstrate other geometrical and physical theorems. Though Kant focuses on circles, he regards them as indicative of the sort of “concord and unity” that prevails throughout the “immense manifold” of space (Ak. 2:93). All “properties of space” demonstrated by the geometer are connected by interlocking general laws, as are all the many places and things within space.

Kant regards this unity and harmony of space as amazing precisely because it is necessary. Indeed, he denies that any “miracle of nature could ... give more cause for amazement” (Ak. 2:95). Because no necessary unity or order among a multiplicity can exist without a special ground, according to Kant, we are just as justified in

searching for the ultimate foundation of the unity of space as we are in searching for the foundation of the necessary order of (inorganic) matter, the laws of mechanics. For Kant, the outcome of the search in both cases is the same: “there is a supreme ground of the very essences of things themselves, for unity in the ground also produces unity in the realm of all consequences” (Ak. 2:96). The ground in question is the divine schema, which is now taken to be the source, not just of the existence of inorganic material substances and their causal connections, but of their very possibility. The unity of space is metaphysically necessary precisely because it is an expression of the metaphysically necessary, law-governed unity of inorganic nature. Since the latter unity is immediately grounded in the unity of the divine schema, and mediately in the unity of the divine intellect, the former unity is, too.

4.3. *Inaugural Dissertation* [1770]

In the *Inaugural Dissertation*, Kant continues to regard the unity of space as necessary. As he writes, “by its essence space is nothing if not unique, embracing absolutely all things which are externally sensible” (Ak. 2:405). However, by this point, Kant has changed his mind about what space is. Whereas in his earliest works he regarded space as an objective order of coexistence founded on physical substances and their reciprocal causal relations, he now regards the single all-encompassing space mentioned above as “the intuitively given possibility of universal co-ordination” (Ak. 2:407). In other words, this unitary space is a sensible intuition that makes possible the thoroughgoing mutual interaction of all sensible substances. Since it grounds the

possibility of reciprocal causal relations among all sensible substances, and since these relations constitute the form of the sensible world, unitary space is “the absolutely first formal principle of the sensible world” (Ak. 2:405).

The above description of Kant’s view in the *Inaugural Dissertation* might give the impression that Kant now regards the unity of space as a brute given, a property of our sensible intuition that admits of no deeper explanation. But this is not Kant’s view. He explicitly denies that space and time are “primitive conditions which are already given in themselves,” maintaining instead that they “bear witness to some common principle constituting a universal connection” (Ak. 2:391). As he writes:

Those who take space and time for some real and absolutely necessary bond, as it were, linking all possible substances and states, do not think that anything further is required in order to understand how a certain ordinary relation, as the fundamental condition of possible influences and the principle of the essential form of the universe, should belong to a plurality of existing things.... For this, it seems to them, would be determined in itself by the entirety of space, which includes all things. But, apart from the fact that this concept, as has already been demonstrated, rather concerns the sensitive laws of the subject than the conditions of the objects themselves, even if you were to grant this concept the greatest possible reality, it would still only signify the intuitively given possibility of universal co-ordination. Accordingly, the following question, which can only be solved by the understanding, remains untouched, namely: *what is the principle upon which this relation of all substances rests, and which, when seen intuitively, is called space?* (Ak. 2:407–408)

Against philosophers who think that it is sufficient to appeal to the unity of space in order to explain the connection among substances in a world, Kant is making three points. First, the only substances in space are substances that we sense (that is, sensible substances). Because non-sensible substances (that is, *intelligible* substances) are not in space, it cannot be our unitary space that grounds the possibility of their

mutual interaction and thus their membership in the same world. Second, our unitary space is not the *sole* ground of the thoroughgoing mutual interaction of sensible substances. Though our unitary space makes *possible* the thoroughgoing mutual interaction of sensible substances, it cannot, at least on its own, bring about actual causal relations among them. Space is not causally efficacious; it can no more produce actual relations among sensible substances than it can produce the relata themselves.⁴⁵ Finally, our unitary space is not the *ultimate* ground of the possibility of the thoroughgoing mutual interaction of substances, since it is itself grounded in something else.

It emerges in the course of the *Inaugural Dissertation* that this “something else” is the ground of both the possibility and the actuality of the mutual interaction of all *intelligible substances*: the schema of the divine understanding. All existing intelligible substances interact with one another, and thus belong to the same world, because they all are contained in the same divine representation. As Kant writes, “the unity in the conjunction of substances in the universe is a corollary of the dependence of all substances on one being” (Ak. 2:408). Our unitary space is merely a sensible expression of this unitary divine representation, which is the principle of the form of the world of *intelligible substances*.

During this period, Kant refers to this representation (which he earlier called the “divine schema”) as both an immediate consciousness and an intellectual intuition. We see this, for instance, in the following reflection, written around the time of the *Inaugural Dissertation*:

⁴⁵ I am indebted to Watkins, “Kant’s Theory of Physical Influx,” 301 for this point.

The first ground of combination [*Verbindung*] is also the formal ground of the possibility of community. Sensibly expressed it is space. However, space is presumably [*vermuthlich*] only sensible intuition, which the immediate consciousness (intellectual intuition) underlies, but cannot be found therein through analysis. (Ak. 17:456)⁴⁶

Space is unitary because it is a sensible expression of God's intellectual intuition, which is itself unitary. In this way, the unity of space is grounded in the unity of God's intuition, which is grounded in turn in the unity of the divine understanding.

4.4. Upshot

In all of the pre-Critical publications considered above, Kant holds that the unity of space is grounded in the unity of the divine understanding. Moreover, in all of them, he takes the existence of the unity of space to imply the existence of a unitary representation that contains every part of space. Prior to the *Inaugural Dissertation*, the representation in question is the schema of the divine understanding. In the *Inaugural Dissertation*, the representation in question is the human sensible intuition that he now takes to be identical with the space that "embraces absolutely all things which are externally sensible." Nevertheless, the schema of the divine understanding (now also called an "intellectual intuition") continues to play an important role. The unity of God's intuition explains the unity of space; the unity of God's understanding explains the unity of His intuition.

Synthesis plays no role in the above accounts of the unity of space. This should not be particularly surprising, since it is the *divine* understanding that takes center

⁴⁶ According to the editors of the Akademie-Ausgabe of Kant's works, this note was written sometime between the end of 1769 and the fall of 1770.

stage in them. The divine understanding is an intuitive rather than a discursive one. As we have seen, an intuitive understanding is one that does not depend on sensibility for the manifold of intuition because it creates this manifold in its own self-consciousness. In contrast to the unity of a discursive understanding, the unity of an intuitive understanding does not require the synthesis of a manifold (B138-139).

5. After the *Inaugural Dissertation*: From an Intuitive Understanding to a Discursive One

In this section, I turn to Kant's account of space during the "silent decade." I argue that, notwithstanding the major shifts that his thinking underwent during this period, he continues to hold that (i) the existence of a unitary space entails that there is some unitary representation that contains every part of space; (ii) the unity of this representation is grounded in the unity of an understanding; and (iii) the unity of this representation is not the result of an act of synthesis. This is true, despite the fact that the sort of understanding in question is now a discursive rather than an intuitive one.

As is well-known, Kant's thinking takes a revolutionary new direction after the publication of the *Inaugural Dissertation*. One important change is that Kant no longer takes for granted the legitimacy of our *a priori* concepts – concepts like 'substance,' 'causation,' and 'God.' Whereas at the time of the *Inaugural Dissertation*, Kant had (dogmatically) assumed that such concepts could figure into substantive metaphysical judgments that are knowable *a priori*, sometime after the *Inaugural Dissertation* Kant comes to think that *a priori* concepts are only theoretically justified insofar as they serve as subjective conditions of the possibility of experience. Because the concept of

God is not such a concept, or so Kant holds, he is forced to deny the theoretical legitimacy of all non-trivial judgments involving the concept of God, such as the claim that the unity of space is grounded in God's unitary representation.⁴⁷

Closely related to the above is a radical shift in what Kant takes to be the central question of theoretical philosophy. In the *Inaugural Dissertation*, the question is: "what are the conditions on the possibility of a manifold of substances belonging to a single world?" Kant's answer to this question makes essential appeal to properties of God. It is possible for a manifold of *intelligible substances* to stand in reciprocal causal relations, and thus constitute a single world, because all the members of this manifold are represented by one-and-the-same schema of the divine understanding. It is possible for a manifold of *sensible substances* to stand in reciprocal causal relations, and thus constitute a single world, because all the members of this manifold are contained in a unitary spatial representation, which is itself just a sensible expression of the schema of the divine intellect. After the *Inaugural Dissertation*, the question takes on an epistemological dimension: "what are the conditions on the possibility of experiencing a single world?" Though this question is analogous to the other – an

⁴⁷ This does not entail, however, that Kant thinks that no judgments involving the concept of God have *any* legitimacy. Indeed, though the situation is far from clear, the Critical Kant seems to hold onto many of his earlier claims about God – including some of his earlier claims about the relationship between the divine intellect and the unity of space (see Watkins, "Kant's Theory of Physical Influx," 315 for a suggestion to this effect). However, if this is indeed true, Kant must now regard these claims as having a practical, rather than a theoretical justification. I take no stand here on the question of whether, in the Critical period, Kant continues to hold that the unity of the divine understanding is the ultimate ground of the unity of space. (Watkins' position seems to be that Kant continues to hold this view.) I only wish to note that such a view is fully compatible with the claim that the unity of space is grounded in the unity of the discursive understanding. One way that Kant could consistently accept both claims is by holding that the unity of space has multiple grounds. Alternatively, he could hold that the unity of the discursive understanding is grounded in the unity of the divine understanding. Since the grounding relation is transitive, it would follow that the unity of space is grounded in the unity of the divine understanding.

analogy that is made stronger by the fact that Kant takes experience to require the *unification* of a given *manifold* of representations – this question and its background assumptions are different enough so that the old answer is no longer sufficient.⁴⁸ By Kant's lights, if these conditions are to be conditions on *our* experience, and if they are to be knowable *a priori*, we must look for them *in us*, in the constitution of our sensibility and our understanding.

Nevertheless, these changes in Kant's thinking after 1770 do not lead him to abandon his earlier view that the unity of space admits of some deeper explanation. Indeed, Kant gives an explanation closely analogous to the one that he gave in his earlier publications, though with the unity of the discursive understanding taking the place of the unity of God's understanding. We see this, for instance, in the following fascinating reflection, likely written between 1775 and 1777:

The understanding itself (a being that has understanding) is simple. It is substance. It is transcendentally free. It is affected with sensibility (space), [it is] in a community with others. All objects of it constitute one (composite), which is called world (unity of space)... Everything rests on an original understanding [*einen ursprünglichen Verstand*] that is the self-sufficient ground of the world [*der allgnugsame Grund der Welt*]. The (necessary) unity of time and space is transformed into the necessary unity of an original being [*eines Urwesens*], the immeasurability of the former into the self-sufficiency of the latter. (Ak. 17:707)⁴⁹

Kant here identifies the unity of objects constitutive of a world with the unity of space, and explains the “necessary unity” of the latter through the “necessary unity of an original being,” which he calls the “self-sufficient ground of the world.” The original

⁴⁸ However, this does not mean that the answer that Kant gives in the *Inaugural Dissertation* has no place in the new account – see the previous footnote in this regard.

⁴⁹ According to the editors of the Akademie-Ausgabe of Kant's works, this note was probably written between 1775 and 1777.

being in question is an “original understanding.” Were it not for the surrounding context in which these phrases occur, one might easily come to the conclusion that Kant is talking about the divine understanding here, and merely recapitulating the account of space he gave in the *Inaugural Dissertation*. But the “original understanding” is a discursive understanding, and in particular, a human one (“it is affected with sensibility [space]”: that is, it must be affected in order to sense objects, and one form of its sensibility is space). In the *Critique*, Kant will identify the unity of this discursive understanding with the OSUA.

To be sure, not all of the views expressed in the above reflection are retained in Kant’s fully mature philosophy (as expressed in the *Critique of Pure Reason*). For instance, in the Paralogisms, Kant denies the legitimacy of deriving certain *a priori* metaphysical claims about the soul from the unity of apperception – such as simplicity and substantiality. And in the Antinomies, Kant denies that we can know ourselves to be transcendentally free (though he also denies that we can prove that we are not transcendentally free). For the Critical Kant, the unity of a discursive understanding is not to be equated with the unity of a simple, transcendentally free, thinking substance. By contrast, in the above passage Kant says that a discursive understanding is a simple, transcendentally free substance.⁵⁰ Significantly, however, none of the latter three properties seem to figure into Kant’s explanation of the necessary unity of space. What is important is that the human discursive understanding is a necessary unity.

⁵⁰ As Wolfgang Carl, *Der schweigende Kant: Die Entwürfe zu einer Deduktion der Kategorien von 1781 [Der schweigende Kant]* (Göttingen: Vandenhoeck & Ruprecht, 1989), 101 points out, at this point in his career, Kant had not yet discovered the paralogisms.

Nothing seems to turn on how this unity is construed, and in particular, what if any metaphysical interpretation is given to it.

This is also the case in the following reflection, which was written slightly before the one quoted above, and involves no mention of the substantiality, simplicity and freedom of the ego: “Space is unitary [*Einig*], because it is the form of representation (of all possible outer objects) in a single subject [*in einem einigen Subjekt*]” (Ak. 17:641).⁵¹ A few lines earlier, Kant writes:

It [i.e. space] is a singular representation [*eine einzelne Vorstellung*] because of the unity of the subject ... in which all representations of outer objects can be placed (next) to one another.

It is difficult to deny that Kant is offering an explanation of the unity of space in these passages, and indeed, an explanation in terms of the unity of the discursive subject.⁵² Moreover, it is clear from the second remark quoted here that Kant takes the unity of space to be identical with the unity of a representation. The unity of the latter depends on the fact that all of the spatial representations in which outer objects are located belong to some unitary discursive subject.

Significantly, Kant makes no mention of synthesis in this explanation of space.⁵³ Nor have I been able to find any *Reflexionen* from the silent decade in which synthesis plays a role in Kant’s account of the unity of space. There can be little doubt, then, that Kant continues to accept points (i)-(iii) during the silent decade. As in the

⁵¹ According to the editors of the Akademie-Ausgabe of Kant’s works, this note was likely written in 1774.

⁵² Keller, who similarly calls attention to Ak. 17:641, makes a similar point; see Keller, *Kant and the Demands of Self-Consciousness*, 253.

⁵³ Except, that is, for reflections in which he describes space as being a *ground for synthesis*. Such claims fit perfectly with the Part-Whole Reading. See, e.g. Ak. 17:579: “Both [i.e. space and time] are the only given grounds of the unending synthesis [*der synthesis ohne alle schlüsse*].”

Inaugural Dissertation, the unitary representation whose existence is entailed by the existence of a unitary space is identical with that space. In contrast to the *Inaugural Dissertation*, however, this unitary representation is not taken to be grounded in the unity of God's intellectual intuition, at least not solely. Instead, Kant's view is that the unity of this representation is immediately grounded in the fact that the representations contained in it (which are here taken to be parts of space, or places) belong to some unitary discursive understanding.

6. The Part-Whole Reading and Transcendental Deduction

It should be clear how my account of Kant's early (that is, pre-1781) views about the unity of space provides additional support for the Part-Whole Reading and also how this account casts further doubt on its rivals, the Synthesis and Brute Given Readings. As we have seen, Kant consistently accepted (i)-(iii) in his early career, including during the silent decade, when he had begun work on the book that would become the *Critique of Pure Reason*. If the Part-Whole Reading is correct, then he continues to accept (i)-(iii) in the Critical period, which is exactly what we would expect, given the depth of his commitment to these points. By contrast, according to the Synthesis Reading, he has in effect abandoned (iii), while on the Brute Given Reading, he has abandoned (i) and (ii). Kant's remarks about space during the silent decade, in particular, provide strong evidence for the fact that he not only takes the existence of a unitary space to entail the existence of a unitary representation, but that he thinks that this unitary space *is* a unitary representation. This fits well with (1) and

(2), claims that are shared by both the Part-Whole Reading and the Synthesis Reading but rejected by the Brute Given Reading. Since, as I showed in §2 and §3, the Part-Whole reading is also supported by Kant's remarks about space in the *Critique* and avoids the problems faced by the other readings, it is to be preferred to its rivals.

It should also be clear how this account of Kant's development provides support for the claim that the account of the ground of the unity of space that Kant gives in the Transcendental Deduction is, at least in part, metaphysical in nature. No one would deny this for the sorts of accounts that Kant offers in his pre-Critical publications. Moreover, it is very hard to deny that this also the case for Kant's remarks about the unity of space during the Silent Decade. But these remarks bear an obvious resemblance to Kant's remarks in the B-Deduction. Given the substantial continuity in Kant's claims about the unity of space, there is good reason to think that the account of the ground of the unity of space that he offers in the B-Deduction is also metaphysical. For the Critical Kant, the unity of space is *grounded* in the unity of the discursive intellect (i.e. the OSUA in the property sense) in the same way that, for the pre-Critical Kant, the unity of space is grounded in the unity of an intuitive intellect.

Having explained and argued for the Part-Whole Reading, I now turn to its consequences. The Part-Whole Reading has important implications for the argument of the Transcendental Deduction. In particular, it has implications for the scope of the argument's conclusion, as well as for Kant's motivation in appealing to space in the so-called second step of the argument.

The argument of the B-Deduction is typically broken down into two major steps,⁵⁴ only the second of which relies crucially on considerations about the specifically spatio-temporal nature of human intuition. The conclusion of section §20, which is regarded as the end of the first step of the argument, is a claim about the relationship between the categories and sensible intuition in general: “All sensible intuitions stand under the categories” (B143).⁵⁵ Kant says that he was only able to prove this by abstracting from the specific way in which the manifold of an empirical intuition is given to us (namely, spatially and temporally). It is only in the second step of the argument (beginning in §21 and ending at §26) that Kant relies on specific features of our intuition for his conclusion.

According to a widespread view, one which fits well with the Brute Given Reading, by the end of §20, Kant merely takes himself to have established the conditional claim that the categories apply to all unitary intuitions. He does not take himself to have shown that there are any unitary intuitions, much less that all our

⁵⁴ That there are two steps in the Transcendental Deduction, corresponding, respectively to sections §15–20 and §21–27, is famously argued for in Henrich, “The Proof-Structure,” 640–659. Almost all Kant commentators agree with Henrich that a successful reconstruction of the Deduction must show how §21–27 form a necessary part of Kant’s overall argument (and why Kant does not simply conclude at §20). For instances of commentators explicitly endorsing this desideratum, see Carl, “Die transzendente Deduktion,” 205–207 and Evans, “Two Steps in One Proof,” 553–570.

⁵⁵ Given the very general nature of this conclusion, it is not obvious what remains to be shown after §20: if the objects of all sensible intuition stand under the categories, doesn’t it follow trivially that the objects of all human intuition (which is spatio-temporal) stand under the categories? An affirmative answer is inescapable. But then what is the second step of the argument (which relies on considerations about space and time) supposed to accomplish? The gist of my solution to this well-known puzzle (which I will return to below) is as follows: by the end of §20, Kant has shown that we can *apply* the categories to the objects of all sensible intuition (including our own intuition). In particular, he has shown that we can use the categories to represent these objects in a very general way, relying on the one mark that they all share: they are all *objects*. However, Kant has not yet shown that (1) we can use the categories to *cognize* the objects of spatio-temporal intuition, and (2) we can only use the categories to cognize such objects. The fact that we can use the categories to represent all objects of sensible intuition in a general way does not have any implications for our ability to cognize such objects, since to cognize an object it is necessary to determine it (that it, represent it specific features) based on empirical intuition.

intuitions are unitary.⁵⁶ On this view, Kant does not establish the latter conclusion until the second step of his argument, where he appeals to the unity of space and time as to a fortuitous feature of our forms of intuition, one that ensures the unity of all *our* intuitions and thus the applicability of the categories to their objects. For proponents of this view, the Transcendental Deduction does not prove *any* discursive being can apply the categories to *any* object given in sensible intuition (regardless of what type), but only that *we humans* can apply the categories to the objects of our sensible intuition in virtue of the special properties of our forms of intuition.

However, if the Part-Whole Reading is correct, then unity is not some special feature of space. As a form of intuition_b, space is just a pure manifold of intuitions of places. If such a manifold is given to a discursive creature, it is necessarily contained within a formal intuition. Since the unity of the latter is identical with the unity of space, any manifold of intuitions of places that is given to a discursive creature is necessarily part of a *unitary space*. When a pure manifold of intuitions of places is given to a non-discursive creature, however, this is not the case. Such creatures, by definition, lack the OSUA, and thus lack a formal intuition. By contrast, even discursive *creatures* that have radically different forms of intuition_b from ours will have some kind of formal intuition that contains them. Their forms of intuition will be unitary in the same way that ours are.

What this means is that Kant's motivation for focusing specifically on space and time in the second half of the Transcendental Deduction cannot be simply that

⁵⁶ Variations of this view are endorsed by Allison, *Kant's Transcendental Idealism* (2004), 194; Evans, "Two Steps in One Proof," 553–570; and Henrich, "The Proof-Structure," 640–659

they are unities – for all discursive creatures have unitary forms of intuition. This leaves us with two pressing questions to answer: First, what is the second step of Kant’s argument supposed to establish that is not already secured by the first step? Second, why does Kant need to talk about space and time in order to establish this result?

Let’s start with the first question. As we saw, Kant concludes at §20 that “all sensible intuitions stand under the categories.” Though it is a trivial inference from this to the claim that “all spatio-temporal intuitions stand under the categories,” it is important to see that (prior to §21) Kant has not yet said anything about the *a priori validity* of the categories. He has not shown that and how the categories can be used to gain *a priori cognition* of any empirical objects given in sensible intuition (much less human intuition), and he has not yet shown that we can *only* cognize objects given in spatio-temporal intuition. (Tellingly, in §21, Kant himself describes the second half of the deduction as “an explanation of the *a priori* validity” of the categories in regard to objects given to us in intuition [B145].) In the first half (up to §20) of the Transcendental Deduction, Kant shows that *any* discursive creatures can use the categories *a priori* to represent (that is, think) in a general way *all* objects given in sensible intuition (whatever its specific type). The representation in question is maximally general insofar as it is a representation by means of the most general feature that these objects have in common (namely, being *objects*). This is an important and substantive result: it is by no means obvious that the categories can be used *a priori* to represent objects given in any (sensible) intuition whatsoever. But it

does not follow from this that the categories can be used to gain *a priori cognition* of any object, much less all objects. As Kant says at §22, “to think of an object and to cognize an object ... are not the same” (B146). To cognize an object it is necessary to determine its specific properties and relations (B147). Though we can represent in a very general way any object of any sort of sensible intuition that we like, we can only cognize an object *a priori* if we can determine specific *a priori* features of it.

This leads us to the answer to the second question. The feature of space that is relevant for the second step of Kant’s argument is not its unity but rather its *a priori determinability*. We constantly exploit this feature of space in geometry. When the geometer constructs a triangle, she performs a figurative synthesis on a manifold of parts of space in accordance with the concept of a triangle. In doing this, she determines this manifold as having certain *a priori* features (in particular, as having the figure of a triangle). The manifold did not have this figure before she performed the act of synthesis (in that sense, it was *indeterminate*). Moreover, in determining space in this way, she determines and cognizes an *object*: namely, a triangle.

The *a priori* determinability of space, which Kant thinks we learn by doing geometry, is crucial to the second step of Kant’s argument. For it is this feature of space that guarantees that we can use the categories *a priori* to determine, and thus to cognize, empirical objects of outer sensible intuition. It is also the *a priori* determinability of space (and of time) that explains why we cannot use the categories to gain *a priori* cognition of sensible objects that are not given in space and time. Such

objects are not *determinable* by us *a priori*, because they are not given in a form that we can determine *a priori*.

Such an interpretation is borne out by the text of the Deduction. In the second part of the argument, Kant provides a general explanation of how the categories are used to determine the *a priori* spatio-temporal features of the objects of empirical intuition. He argues that this use of the categories is normatively justified, because it yields determinate empirical intuition (i.e. perception). Kant brings to bear his doctrine of figurative synthesis in his explanation of the determination of the spatial and temporal features of objects, and expands on this explanation later in the Axioms of Intuition. In both discussions, Kant argues that it is the “category of quantity” in particular that is at play in the synthesis required for determinate (spatial) empirical intuition (see B162). (I will have more to say about determinate intuition, the category of quantity, and figurative synthesis in the next chapter, where I offer an account of the manner in which we construct the figure and magnitude of the objects of outer perception.)

If Kant is to establish his claim that we can use the categories to gain *a priori* cognition of empirical objects given in spatial and temporal intuition, then he needs to show that and how the categories can be used to determine the *a priori* spatial and temporal features of such objects. This explains why Kant is so preoccupied with space and time in the second half of the Deduction, and why he is concerned to give an account of this determination in terms of a categorially-governed synthesis of the manifold of intuition.

But what role does the *unity* of space play in the second half of Kant's argument? That Kant assigns considerable importance to the unity of space is evident in the following remark:

Thus if, e.g., I make the empirical intuition of a house into perception through apprehension of its manifold, my ground is the *necessary unity* of space and of outer sensible intuition in general, and I as it were draw its shape in agreement with this synthetic unity of the manifold in space. This very same synthetic unity, however, if I abstract from the form of space, has its seat in the understanding, and is the category of the synthesis of the homogeneous in an intuition in general, i.e. the category of *quantity*, with which that synthesis of apprehension, i.e. the perception, must therefore be in thoroughgoing agreement. (B162)

The unity of space and time is important to Kant's argument because it is what ensures that (1) the categories can be used *a priori* to combine every part of the manifold given to us in an empirical intuition with every other, and (2) there are completely universal, *a priori* principles for this combination. The principles in question, as emerges more clearly in the Analytic of Principles, are principles for the determination of space and time. (More precisely, they are principles for the determination of the spatial and temporal properties of the objects of a perception, and for the determination of the spatial and temporal relations that obtain among the objects of different perceptions.) According to one such principle (which is treated in the Axioms of Intuition), the categories of quantity are required for the determination of the objects of a perception. According to another such principle (which is treated in the Third Analogy), the category of community is required for the determination of the spatial co-existence of the objects of different perceptions. I will have much more to say about these principles in Chapters 3 and 4. For our present purposes, it suffices to

note that it is the unity of space that ensures that every part of the given manifold of outer empirical intuition can be combined in some way with every other using the categories, and that we can use the categories *a priori* to cognize relations among all the objects of all outer empirical intuitions. As we have seen, however, the unity of space is not a special feature of it. That all the manifold of outer empirical intuition can be combined in a single spatial framework is due to our having a formal intuition, which as we have seen, is something that every discursive creature has.

7. Taking Stock

In this chapter, I have argued that, for the Critical Kant, the unity of space is not a primitive property of it but rather has a deeper ground. (By contrast, the manifoldness of space, the fact that it is comprised of infinitely many numerically distinct places, is a primitive, inexplicable property of it.) In this respect, Kant's Critical view of the unity of space is continuous with his pre-Critical view on this score. There is also continuity in Kant's views about the source of the unity of space: throughout his career, he takes the ground of the unity of space to be a unitary intellect. The difference is that, for the pre-Critical Kant, the intellect in question is an intuitive one, while for the Critical Kant the intellect in question is a discursive one.

At this point, one might wonder how the results of this chapter connect with those of Chapter 1. There, I explored the Form Thesis, which I glossed as the claim that space is a merely subjective framework that necessarily encompasses all and only objects given to us in outer intuition. Chapter 2 sheds light on what this framework is:

it is a formal intuition (or its object). In Kant's formulations of the Form Thesis in the Aesthetic, the term 'form of intuition' is a synonym for what he will later call 'formal intuition' (which is itself a synonym for 'pure intuition'). But, as we've seen, this is not the only way in which Kant uses the term 'form of intuition'. In key passages of the B-Deduction, and elsewhere, he uses it to denote the pure manifold of intuitions of places that is given at some instant. Space as a form of intuition_b is a *part* of space as a formal intuition; the former is contained in the latter. It is space as a formal intuition that allows all the manifold of empirical intuition encompassed by it to be synthesized by the understanding in accordance with the categories. (As we have seen, a formal intuition is able to guarantee the possibility of a thoroughgoing synthesis by the understanding because it is itself grounded in the OSUA.) The ambiguity of the term 'form of intuition' could be the source of considerable confusion if one is not aware of it. Indeed, even when one is aware of it, it can be difficult to tell which sense of the term is relevant for which portions of the *Critique of Pure Reason*. A key litmus test is the following: if Kant is using the term 'form of intuition' to denote something unitary (in the two senses of unity explicated above), then he is using it as a synonym for formal intuition (and not form of intuition_b).

In Chapter 1, I claimed that Kant's metaphysics of space has a realist as well as an idealist side. Chapter 2 has brought to light a key element of Kant's *idealist* metaphysics of space: the metaphysical dependence of the unity of space (which, to repeat, is identical with the unity of a formal intuition) on the OSUA. In subsequent chapters, I explore the dependence of other *a priori* features of space (in particular,

figure, magnitude, and location) on further features of the understanding. I will also explore Kant's realist metaphysics of space. As will become evident, the sorts of explanations Kant gives of features of space in the context of his realist metaphysics are very different from those that he gives in the context of his idealist metaphysics.

Chapter 3:
Outer Perception, Determination, and Geometry

“All appearances contain, as regards their form, an intuition in space and time, which grounds all of them *a priori*. They cannot be apprehended, therefore, i.e. taken up into empirical consciousness, except through the synthesis of the manifold through which the representations of a determinate space or time are generated, i.e., through the composition of that which is homogeneous and the consciousness of the synthetic unity of this manifold (of the homogeneous). Now the consciousness of the homogeneous manifold in intuition in general, insofar as through it the representation of an object first becomes possible, is the concept of a magnitude (*Quanti*). Thus even the perception of an object, as appearance, is possible only through the same synthetic unity of the manifold of given sensible intuition through which the unity of the composition of the homogeneous manifold is thought in the concept of a *magnitude*, i.e., the appearances are all magnitudes and indeed extensive magnitudes, since as intuitions in space or time they must be represented through the same synthesis as that through which space and time are determined” (B203)

1. Introduction

In Chapter 2, I argued that the unitary spatial framework mentioned in the Form Thesis is a formal intuition (or its object). Since the unity of a formal intuition is grounded in the OSUA – a key feature of the discursive *understanding* – it follows that the unity of space is grounded in the OSUA. I also argued that the second half of the B-Deduction rests on an appeal to the *a priori determinability* of space and time. The importance of the concept of determinability and its close relative ‘determination’ is underscored by the prominent role these concepts play in the Analytic of Principles, which follows and builds on the results of the Transcendental Deduction. In one section of the Analytic of Principles, the Axioms of Intuition (quoted in

the epigraph to the current chapter), Kant appears to be offering an account of the determination of space and time in *perception*. In another section of the *Analytic of Principles*, the Analogies of Experience, Kant appears to be offering an account of the determination of time in *experience*. In Chapter 4, I will explore the latter account. In doing so, I will show that the Analogies are just as much about *space*-determination as they are about *time*-determination. In the current chapter, I consider Kant's account of the determination of space in outer *perception*.

Before proceeding further, it is necessary to consider two preliminary questions: (1) What *a priori* features of space and of spatial objects require *determination*? (2) What does 'determination' mean in this context? The first question can be answered with relative ease. Kant's view is implicit in the follow remarks:

By means of outer sense (a property of the mind) we represent to ourselves objects as outside us, and all as in space. In space their form, magnitude, and relation to one another is determined, or determinable. (A22/B37)

[E]verything real in the objects of the outer senses, which is not merely a determination of space (place, extension, and figure).... (Ak. 4:523)

Thus things, as appearances, do determine space, i.e., among all its possible predicates (magnitude and relation) they make it the case that this or that one belongs to reality; but space, as something subsisting in itself, cannot conversely determine the reality of things in regard to magnitude and shape, because it is nothing real in itself. (A431/B459)

One might think that *motion* is also an *a priori* determination of space (and of objects in space). However, while Kant does describe motion as a 'determination' (see, e.g., A274/B330), he regards it (quite understandably) as a determination of space *and*

time, rather than of either taken on its own (see A32/B48 and A41/B58).¹ For Kant, the *a priori* features of *space* (as opposed to *space and time*) and of spatial (as opposed to *spatio-temporal*) objects that require determination are figure (or shape), magnitude (or size), and location (or position). (It should be noted, though, that the fact that all these *a priori* properties of space require determination does not mean that they are all determined in *perception*, as opposed to *experience*, which results from connecting different perceptions [and their objects] together.² Indeed, it will turn out that this is not the case.)

The second question cannot be answered so easily. As Kant explains, *inter alia*, in the Transcendental Ideal, to determine a thing with respect to some concept (such as ‘figure’) is to assign it one of a pair of contradictory possible predicates (for instance, ‘triangle’ or ‘circle’).³ Significantly, Kant deploys precisely this language in his remarks about determining space at B431/B459. But it remains unclear from this general definition of ‘determination’ whether we are to understand an epistemic (or logical) act (a subject’s *judging* that an object is P) or a metaphysical one (a subject or an object *making it* so that an object is P). There are some contexts in which the term is clearly being used in the epistemic sense. But there are also contexts in which the metaphysical sense is intended.⁴ Depending on how one understands Kant’s use of ‘determination’ (and ‘determine’) in the remarks quoted just now, determining the

¹ Kant also suggests, at least in the *Critique of Pure Reason*, that motion is an empirical (rather than *a priori*) concept and determination (see, e.g., A41/B58), though he seems to back off from this view in the *Metaphysical Foundations of Natural Science*.

² See, e.g., A176/B218. I will have more to say about the contrast between perception and experience in Chapter 4.

³ See, e.g., A571/B579ff.

⁴ Cf. the discussion of Kant’s notion of determination in Daniel Sutherland, “The Point of Kant’s Axioms of Intuition,” *Pacific Philosophical Quarterly* 86 (2005): 135–159 (142ff.). While

shape of a region of space might simply mean judging, say, that it is a triangle (where the region of space is assumed to have had this property prior to the act of determining it). But it might also mean *causing* a region of space to instantiate the property of being a triangle (where the region of space is assumed to have lacked this property prior to the act of determination).

This chapter has two main goals. The first is to provide answers to the following questions: (i) how is an outer perception related to a form of intuition_b and a formal intuition; (ii) what *a priori* features of space are determined in an outer perception; (iii) what sort of determination is at issue (metaphysical or epistemic); (iv) how are these *a priori* features of space determined? As I will argue, an outer perception, for Kant, is a *determinate outer empirical intuition*, and thus distinct from both a form of intuition_b and a formal intuition. It is a conceptualized intuition (an intuition subsumed under a concept) that has as its object a manifold of spatial regions⁵ that are filled with matter and that are determined with respect to their figure and magnitude. The notion of determination at issue here is *metaphysical*. This is exactly what one would expect if one of Kant's concerns in the *Transcendental Analytic* is to fill out the nascent metaphysics of space of the *Transcendental Aesthetic*, which left key questions unanswered about the metaphysical grounding of various properties of space. As I argue, in the *Transcendental Analytic* (and the *Axioms of Intuition*, in particular) Kant offers realist and idealist accounts of the

⁵ I am using the term 'region' as a synonym for 'place.' One reason for using the first term is that it does not sound (excessively) strange to talk about determining the location of *regions in space* (along with the matter that fills those regions) while it can sound strange to talk about determining the location of *places in space* (along with the matter that fills those places).

manner in which regions of space come to instantiate specific figures and magnitudes. According to the realist account, the figure and magnitude of regions of space are metaphysically determined by the material objects that occupy them; the figure and magnitude of these, in turn, are determined by the figure and magnitude of their parts, *ad infinitum*. According to the idealist account, the figure and magnitude of the matter-filled regions that we perceive are metaphysically determined by a quantitative synthesis (a synthesis involving the categories of quantity): the figurative synthesis.⁶

The second goal is to use these answers, along with the results of previous chapters, in order to steer a middle course in a debate that is currently raging among Kant scholars. This debate concerns the question of whether space is given by sensibility or constructed by the intellect.⁷ Commentators tend to hold two sorts of views, which initially appear to be mutually exclusive and to exhaust the range of possible opinions on this issue. At one extreme are those like Beatrice Longuenesse, Wayne Waxman, Pierre Keller, Wilfred Sellars, and John McDowell, whom I will call constructivists, borrowing Lorne Falkenstein's terminology.⁸ They deny that space is given to us in intuition independently of synthetic acts of the intellect; rather, they

⁶ In identifying the quantitative synthesis of the Axioms of Intuition with the figurative synthesis (or *synthesis speciosa*) of the B-Deduction, I depart from Longuenesse's account of these notions. Longuenesse regards the quantitative synthesis as a specific type of figurative synthesis. See, e.g., Longuenesse, *Kant and the Capacity to Judge*, 243ff.

⁷ Hatfield ("Kant On the Perception of Space [and Time]," 84–85) formulates the relevant question as follows: "what is given in the 'manifold' of spatial (or temporal) intuition from the senses, and what is provided by the understanding's synthesis?"

⁸ See Falkenstein, *Kant's Intuitionism*, 7. Other commentators who discuss this distinction include Allison, *Kant's Transcendental Idealism* (2004), 114, and Matthew Rukgaber, "'The Key to Transcendental Philosophy': Space, Time and the Body in Kant," ["Space, Time, and Body in Kant"] *Kant-Studien* 100/2 (2009): 166–186.

assert, space is a product of intellectual construction.⁹ On the other side are commentators like Lorne Falkenstein, Henry Allison, Lucy Allais, and Robert Hanna, whom I will call intuitionists, again borrowing Falkenstein's terminology. The job meted out to the imagination and understanding, on their view, is not one of *producing* space, but rather one of uncovering and conceptually determining the ordered spatial manifold given to us in an intuition through our passive faculty of sensibility. As I will argue, both the intuitionist and constructivist readings get at part of the truth though neither is fully satisfactory. This is because Kant thinks that some *a priori* properties of space are "given" by sensibility, while others are immediately grounded in the OSUA, while yet others are grounded in acts of categorial synthesis.

In §2, I explain how outer perception fits into the taxonomy of form of intuition_b, formal intuition, and determinate intuition. I also argue that the features of space determined in outer perception are figure and magnitude. In §3, I show that the sort of determination at issue is (at least in part) metaphysical, and I argue that Kant is committed to both a realist and an idealist account of this determination. In §4, I bring my findings to bear in the debate between intuitionists and constructivists by carving out a new position. In §5, I conclude.

2. Preliminaries: Outer Perception vs. Form of Intuition_b and Formal Intuition

As we have seen, in the B-Deduction, Kant is concerned to show that and how

⁹ Constructivists do not agree among themselves about whether space has its provenance in the imagination or the understanding, or what the relationship is between these two faculties. For this reason, when I am speaking about constructivists in general, I will often describe them as holding that space depends on acts of the intellect (where the term 'intellect' is meant to be non-committal with respect to the imagination/understanding divide).

the categories have *a priori* validity with respect to the objects of experience. Despite passing references to the “category of quantity”¹⁰ and the category of cause (see B162-163), Kant deals there with the categories in general. He does not offer an argument for the *a priori* validity of each specific type of category. But in the *Analytic of Principles*, which follows the *Transcendental Deduction*, Kant goes through the different headings in the table of categories: ‘quantity,’ ‘quality,’ ‘relation,’ and ‘modality’. He tries to show that each type of category, and in some cases¹¹ every particular category that falls under this type (for example, ‘substance,’ ‘causality,’ and ‘community,’ which fall under the heading of ‘relation’), is indispensable for experience, that each is, as it were, a condition of the possibility of experience. This requires demonstrating the *a priori* validity of synthetic *a priori principles* involving specific categories (such as the principle that everything that happens has some cause and the principle that all substances stand in thoroughgoing mutual interaction¹²). Hence, the name *Analytic of Principles*.

In the first section of the *Analytic of Principles*, the *Axioms of Intuition*, Kant focuses on the categories of quantity (or magnitude) and the principle that all appearances (that is, objects of intuition) are extensive magnitudes. The stakes for

¹⁰ Kant’s locution here is misleading. Technically, ‘quantity’ is one of four *headings* in the table of categories (the others are ‘quality,’ ‘relation,’ and ‘modality’) rather than a category in its own right. The *categories* of quantity (that is, those that fall under the heading of quantity) are ‘unity,’ ‘plurality,’ and ‘totality’ – see A80/B106. In this dissertation, I do not attempt to explain the specific role that each of these categories plays in the quantitative synthesis – in part because Kant himself does not attempt to do this in the *Critique*. Beatrice Longuenesse, however, does address this issue (as well as the issue of how the three categories of quantity are related to the three logical functions of quantity in judgement: ‘universal,’ ‘particular,’ and ‘singular’), and the results of her analysis are illuminating. See Longuenesse, *Kant and the Capacity to Judge*, 243ff.

¹¹ Kant does this for the relational and modal categories but not (at least obviously) in the case of the categories of quality and quantity.

¹² I explore Kant’s proof of this principle in Chapter 4.

proving this principle are high: if it does not hold, then Kant's theory of geometry is doomed.¹³ At the heart of that theory is the claim that the objects of outer intuition must necessarily conform to the "axioms" of mathematics (in particular, to the axioms of geometry, the "mathematics of extension" [A163/B204]). The truth of this claim requires showing, at a minimum, that all objects of outer intuition have determinate shapes and extensive magnitudes (i.e. sizes). I will have more to say about the role that geometrical considerations play in the Axioms of Intuition in section 4.

Given this description of Kant's project in the Axioms of Intuition as well as the title of the section (the Axioms of *Intuition*), it might seem puzzling that Kant is primarily concerned with showing that the categories of quantity are operative in *perception*. As he writes:

Thus even the perception of an object, as appearance, is possible only through the same synthetic unity of the manifold of given sensible intuition through which the unity of the composition of the homogeneous manifold is thought in the concept of a *magnitude*.
(B203)

But the puzzle disappears if perception is just a species of determinate intuition. As noted in Chapter 2, a determinate intuition is a conceptualized intuition that has as its object a manifold of regions of space. Determinate intuitions can be either outer or inner, and either empirical or *a priori*. My suggestion is that we identify Kantian outer perceptions with *determinate outer empirical intuitions*.

¹³ Daniel Sutherland similarly emphasizes the importance of the Axioms of Intuition for Kant's theory of geometry. See Sutherland, "The Point of Kant's Axioms of Intuition," 135–159.

This identification is supported by Kant's repeated claims to the effect that perception rests on a *synthesis of apprehension*. In the B-Deduction, for instance, Kant writes:

First of all I remark that by the synthesis of apprehension I understand the composition of the manifold in an empirical intuition, through which perception, i.e., empirical consciousness of it (as appearance) becomes possible. (B160)

Perception, for Kant, requires taking up the manifold of empirical intuition (the manifold of sensation) into consciousness. Kant refers to this act of "taking up" (or apprehending) as the synthesis of apprehension. In the B-Deduction, Kant argues that the synthesis of apprehension, which is an *empirical synthesis* (see B162n for an explicit statement to this effect), presupposes a *pure synthesis*, a synthesis of the pure manifold. In other words, we can only combine the manifold of sensations given in an empirical intuition if we combine the manifold of representations of places and times within which those sensations are given. Kant reiterates this point in the Axioms of Intuition: "The synthesis of spaces and times, as the essential form of all intuition, is that which at the same time makes possible the apprehension of the appearance" (A165/B206). Kant's name for this pure synthesis is the *figurative synthesis*. In both the B-Deduction and the Axioms of Intuition, he characterizes it as an act of combination that is governed by the category of quantity and that yields representations of determinate parts of space, that is, determinate intuitions (see B154 and B203). If perception is the result of a synthesis (the synthesis of apprehension) that itself depends on the figurative synthesis, it seems that it, too, must be a determinate intuition, in particular, a determinate empirical intuition. An outer

perception would then be a determinate outer empirical intuition: a conceptualized intuition of a determinate matter-filled region of space.

If this is right, then an outer perception must be distinguished from both a form of intuition_b and a formal intuition. As I argued in Chapter 2, space as a form of intuition_b is a manifold of intuitions of places that is given at some instant. Every form of intuition_b is contained within a formal intuition, just as all objects of these intuitions (various regions of space) are contained within the object of a formal intuition: a unitary spatial whole. A determinate intuition is what results when some form of intuition_b is combined through the figurative synthesis. (It is the fact that every form of intuition_b is contained within one formal intuition that guarantees that every part of space can be combined in a determinate way with every other.) If a form of intuition_b is given along with a manifold of sensation, the result of combining it is a determinate outer empirical intuition. This intuition has as its object a determinate manifold of matter-filled regions of space. A determinate outer empirical intuition, for example, the perception of a house, is contained within a formal intuition (i.e. a pure intuition of a unitary, all-encompassing spatial whole), just as its object (the house) is contained within the object of a formal intuition (a unitary, all-encompassing spatial whole).¹⁴

But just what *a priori* features of space are determined in any *outer perception* considered on its own? What we are looking for are *a priori* spatial properties that the object of an outer perception – a manifold of matter-filled regions of space – has

¹⁴ Recall B162 in this regard: “Thus if, e.g., I make the empirical intuition of a house into perception through apprehension of its manifold, my ground is the *necessary unity* of space and of outer sensible intuition in general, and I as it were draw its shape in agreement with this synthetic unity of the manifold in space.”

independent of its relations to objects of other outer perceptions.¹⁵ The natural answer is figure and magnitude. There is a fact of the matter about the shape and size of every matter-filled region of space that I perceive at this moment (I am currently perceiving a computer, a lamp, and a table). This is true, despite the fact that their *perceived* shape and *perceived* size will vary depending on where I am standing, such that I could easily judge incorrectly about their *true* shape and size. The point is that they have a definite, “objective” shape and size. Moreover, their having these properties does not depend on their standing in any relations to the matter-filled regions of space I perceive at the next moment (for instance, when I turn my head to look at the trees outside my window). To see this, consider that I could, at least in principle, figure out the size and shape of this lamp, table, and computer (assuming I also had some sort of measuring instrument), even if I never perceived any other matter-filled regions of space and even if no other matter-filled regions existed. This could not be said, however, of the *position* in space of the matter-filled regions that I perceive at this moment. Their having a definite position depends on their having relations (in particular, distance-relations) to all other matter-filled regions of space. Furthermore, I would not be able to figure out their position relative to the others without having perceptions of (at least some of) them. The figure and magnitude of any object of outer perception, *considered its own*, are thus determined, while its location in space is

¹⁵ Admittedly, a thing’s having a determinate size (expressed, for example, in ‘inches’) will depend on its relations to at least one other object: namely, the object that we are using to measure inches. But it does not seem to depend on its relations to *all other* objects of outer perception (whereas a thing’s having a determinate location does seem to depend on its having relations to all other objects). Moreover, it need not depend on its having relations to *the object of a different outer perception* (if, for instance, the measuring instrument is part of the original perception).

not. Determining the latter requires taking into account its relations to the objects of many other outer perceptions.

I will have much more to say about the determination of location in Chapter 4. At this point, it is important to note that Kant focuses only on figure and magnitude in the Axioms of Intuition. There, Kant links the figurative synthesis to the “generation of shapes” (a link that is already suggested by its name) and the representation of extensive magnitudes (A163/B205). His strategy for demonstrating the applicability of (Euclidean) geometry to the objects of perception is to show that the figurative synthesis at work in outer perception is identical to the act of construction performed by the geometer in pure intuition. Kant has nothing to say about how the objects of an outer perception come to have a determinate location. If I am right, this is because of philosophical considerations like those presented in the preceding paragraph. The *a priori* features of space that are determined in any outer perception taken on its own are figure and extensive magnitude (that is, size).

3. The Determination of Figure and Magnitude

Now that we have gotten clear about what an outer perception is and what features of space are determined in it, we can turn to the following questions: what does ‘determination’ mean in this context, and how are figure and magnitude determined? In order to understand Kant’s thinking about these issues, it is useful to consider a significant difference between Newton and Crusius’s views of space.

3.1. Newton vs. Crusius

As noted in the Introduction and Chapter 1, Newton conceives of space as something substance-like. One thing he takes this to entail is that the existence of space is independent of the existence of bodies. But he also takes it to entail that every absolute place within absolute space has a definite figure, magnitude, and position.¹⁶ To put it another way, Newton thinks there is a fact of the matter about the figure, magnitude, and position of every place in absolute space, even if we do not know what it is. As he writes in *De Gravitatione*:

And hence there are everywhere all kinds of figures, everywhere spheres, cubes, triangles, straight lines, everywhere circular, elliptical, parabolical and all other kinds of figures, and those of all shapes and sizes, even though they are not disclosed to sight. For the material delineation of any figure is not a new production of that figure with respect to space, but only a corporeal representation, so that what was formerly insensible in space now appears to the senses to exist.¹⁷

For Newton, there is no sense of the term ‘determine’ in which it is true to say that bodies determine absolute space. The latter is, as it were, *given* as fully metaphysically determinate: every region of space comes with its own definite figure, magnitude, and position. These properties of regions of space are not grounded in corresponding features of bodies (nor in anything else). If anything, the figure, magnitude, and positions of *bodies* are parasitic on corresponding features of the absolute places that

¹⁶ Gordon Brittan (*Kant's Theory of Science* [Princeton: Princeton University Press, 1978], 98–102), similarly contrasts Newton's view of space and the view that Kant puts forth in the Axioms of Intuition, though Brittan focuses on Newton's account of *magnitude*, saying nothing about Newton's account of figure.

¹⁷ Newton, “*De Gravitatione*,” 111. For the claim that every place in absolute space has a determinate position relative to the others, see Newton, “*De Gravitatione*,” 112. See also Newton, “*Principia*,” 120.

they inhabit.¹⁸ However, there is a sense of ‘determine’ in which it makes sense to say that minds determine space. Crucially, though, it is a purely epistemic sense. A thinking subject can attempt to *figure out*, or ascertain, what properties are instantiated by a given region of space. This is very different from saying that the thinking subject makes or constitutes these features of space. Newton would have regarded that suggestion as absurd. Figure, magnitude, and position are brute features of regions (i.e. absolute places) within absolute space. They do not need to be constituted by a thinking subject or anything else for that matter.

Though Crusius’s view of space is in many ways very similar to Newton’s (for instance, like Newton, Crusius is committed to the existence of absolute places, each of which is some definite distance from every other), it is not clear that he would agree with Newton that even empty absolute space is fully determinate. As we saw in Chapter 1, Crusius draws a distinction between *possible* and actual space.¹⁹ ‘Possible space’ refers to something similar to Newton’s absolute space: it is an infinite, all-encompassing receptacle for finite things. ‘Actual space’ refers to those sections of this space that are filled with finite bodies. The term ‘possible space’ is very suggestive. For Crusius and his contemporaries, one of the marks of a possible thing is that it is not fully metaphysical determinate.²⁰ While there is a fact of the matter about all the properties of an actual thing, there is no fact of the matter about all the

¹⁸ John Earman, for instance, takes this to be Newton’s position (though he does not explicitly discuss Newton’s views on figure and magnitude). See John Earman, *World Enough and Space-Time* (Cambridge, Massachusetts: MIT Press, 1989), 11.

¹⁹ See *Sketch* §51 and §356.

²⁰ In the *Only Possible Argument*, the pre-Critical Kant (who appears to reject this doctrine) attributes it to Wolff and Baumgarten. See Ak. 2:76. Interestingly, Kant also discusses Crusius in this context.

properties of a possible thing. This seems to be why Crusius describes possible space as an “incomplete thing” [*ein unvollständiges Ding*].²¹ Though Crusius is far from clear on this topic, he seems to think that at least some features of places in possible space (in particular, their figure and magnitude, but not their position²²) are metaphysically indeterminate.²³ Moreover, he seems to think a region of space can only be determined with respect to its figure and magnitude (and thus become an “actual space”) if it is inhabited by a finite body with these properties. As he writes:

Because space is an incomplete thing, it cannot be distinctly thought until we have a concept of the substances that fill it, and thus not until we ... encounter material things within it.²⁴

3.2 Kant’s Realist and Idealist Accounts of the Determination of Figure and Magnitude

Are Kant’s views about figure and magnitude closer to Newton’s or Crusius’s? In particular, does Kant agree with Newton that space is brutally given as (metaphysically) determinate, or does he agree with Crusius that these features need to be determined by something? Given what I showed in Chapter 1 to be the substantial overlap between Kant and Crusius’s views on space, it should not come as a surprise

²¹ See, e.g., *Sketch* §356.

²² Recall from Chapter 1 that Crusius agrees with Newton that absolute space consists of absolute places. This seems to entail that even if space were completely empty, there would still be determinate distance-relations among all these absolute places (even if we cannot know what the distances are). In this way, Crusius’s acceptance of absolute places fits at best uneasily with his belief that the magnitudes of regions of absolute space are determined by the objects that fill them. As we will see in Chapter 4, Kant is more consistent than Crusius on this point.

²³ Indeed, Crusius does not think that possible space, or any region within it, is even extended, much less does it have a definite shape and magnitude of extension. Crusius defines “extension” as “composition [*Zusammensetzung*] from *partibus extra partes* or actual parts that are outside one another” (§108). For Crusius, extension results when actually existing substances in space (*partes extra partes*) are combined in a certain way. It is this construal of extension that allows Crusius to deny that God, who is himself in space, is extended and thus divisible into parts. For a discussion of this point, see Hatfield, “Kant on the Perception of Space [and Time],” 67–68.

²⁴ *Sketch* §356.

that Kant's view is closer to Crusius's. One finds echoes of the Crusian position in the following passage:

Space, prior to all things determining (filling or bounding) it, or which, rather give an empirical intuition as to its form, is, under the name of absolute space, nothing other than the mere possibility of external appearances.... (A429/B457)

Like Crusius, Kant describes empty, or absolute space, as a "possibility" that only becomes determinate when it is filled by bodies. Another remark in this vein occurs a few pages later in the *Critique*:

Thus things, as appearances, do determine space, i.e., among all its possible predicates (magnitude and relation) they make it the case that this or that one belongs to reality; but space, as something subsisting in itself, cannot conversely determine the reality of things in regard to magnitude and shape, because it is nothing real in itself. (A431/B459)

It is hard to deny that 'determine' is being used in these passages in a metaphysical sense. Kant, like Crusius, thinks that the figure and magnitude of regions of space are not given as metaphysically determinate; instead, they need to be constituted (that is, metaphysically determined) by something else.²⁵

In passages like these, Kant offers a "realist" account similar to Crusius's own. The account is realist because it explains features of space in terms of properties of bodies (rather than properties of minds). According to this account, the figure and magnitude of regions of space are determined by the figure and magnitude of the bodies in them. The region of space in front of me has a spherical shape and a volume of five feet only because it is filled with a body that has that figure and that volume.

²⁵ This reading of Kant might appear to be in conflict with his claim that space is "an infinite *given* magnitude" (B39). However, the apparent inconsistency dissolves once one realizes that an infinite magnitude is (at least by Kant's lights) an *indeterminate* magnitude. For Kant, magnitude is determined by limitation, yet an infinite magnitude is by definition an unlimited one.

This view contrasts starkly with Newton's claim that "the space was spherical before the sphere occupied it."²⁶

At this point, one might wonder what sort of explanation Kant could offer of the figure and magnitude of *bodies* within the context of his realist account. Kant appeals to features of bodies in order to explain the corresponding features of space, but what determines the figure and magnitude of a body? Kant holds, quite reasonably, that it is the figure and magnitude of the *parts* of a body that are responsible for its overall figure and magnitude. After all, a body is a *composite*, which means that at least some of its properties (namely, its specific figure and magnitude) are determined by the properties of the parts that compose it, the properties of which parts are determined by the properties of their composite parts, *ad infinitum*. It is for this reason that, when I am told that an object is composed of two three-dimensional rectangles, each of which has an area of 6 cubic inches, I can conclude that the whole object is a rectangle with an area of 12 cubic inches. It should be noted that the meaning of 'inch' is here a matter of convention: there is some sensible object that we choose to use as the standard for 'inch.' In this respect, magnitude is a relational property – relative to some some sensible object that we choose to use as our measuring rod. Thus, while the overall magnitude of an object is determined by the magnitudes of its parts, its magnitude is not an intrinsic fact about it. It would not be 'x units' long in the absence of its relation to some some measuring rod that serves to define this unit.²⁷ In this way, Kant offers an account of figure and magnitude that is at once realist (where the

²⁶ Newton, "*De Gravitatione*," 111.

²⁷ One place in which Kant appears to endorse this (commonsensical) view is Ak. 28:568.

figure and magnitude of regions of space are determined by corresponding properties of objectively real bodies) and in the case of magnitude, *relationist*.

But Kant does not just offer a realist account of the figure and magnitude of regions of space and bodies, or so I maintain. In the Axioms of Intuition, in particular, he offers an idealist account. The idealist account and realist account share the assumption that the figure and magnitude of regions of space are not brute givens; instead, they require metaphysical determination from outside. Where they differ is that Kant's idealist account makes essential appeal to the synthetic activities of a discursive understanding. In particular, Kant thinks that the figure and magnitude of the manifold of regions of space that we perceive, as well as the figure and magnitude of the matter that fills those regions, are the result of a synthesis in accordance with concepts of quantity: the figurative synthesis.

Kant calls this quantitative synthesis an act of *composition*, and the description is apt (B201). By adding together the parts of a form of intuition_b along with the manifold of empirical intuition given along with it, we literally *construct* the figure and magnitude of the matter-filled regions that are the objects of outer perception. Prior to this act of composition, the form of intuition_b given to us by sensibility is an indeterminate *quantum*,²⁸ a Euclidean manifold of *partes extra partes* that *can be*²⁹

²⁸ I follow Longuenesse in distinguishing between *quantum* and *quantitas* (i.e. quantity). A quantum is a homogeneous multiplicity whose quantity (i.e. the answer to the question 'how many?' or 'how big') can be determined. As Longuenesse notes, Kant uses the German term for 'magnitude' (*Größe*) to translate both Latin terms, which can lead to confusion. For a very helpful discussion of these matters, see Longuenesse, *Kant and the Capacity to Judge*, 263–271. See also Daniel Sutherland, "Kant's Philosophy of Mathematics and the Greek Mathematical Tradition," *The Philosophical Review* 113/2 (Apr., 2004): 157–201.

²⁹ Recall that the fact that the form of intuition_b is contained in a unitary formal intuition ensures the possibility of combining its parts in accordance with concepts. It should be noted, though, that certain

shaped (that is, brought under the concept of some figure) and summed (that is, brought under some concept of a unit of measurement, and thereby assigned a determinate *quantity*). It is in virtue of (what we might call) the compositionality of the parts of this quantum – the fact that they can be added under such concepts – that Kant describes them as *homogeneous* (see, e.g., B162 and B203). The specific quantity and figure of this (initially) indeterminate quantum are metaphysically determined by combining its parts in accordance with concepts of quantity (like ‘triangle’ and ‘inch’).³⁰ This what Kant means when he says that we “generate” determinate spaces (A163/B203). Through an act of quantitative synthesis (which, to repeat, Kant also calls an act of figurative synthesis, because it always produces some figure), I make it the case that the initially indeterminate quantum of parts that it is given to me through intuition is, for example, a triangle whose sides are each three inches long. Each side of the triangle is *three* inches in virtue of the fact that each side is the result of producing (or rather re-producing) the object corresponding to the concepts ‘line’ and ‘inch’ three times.

According to the above interpretation of the Axioms of Intuition, Kant does not think that the figure and magnitude of the objects of intuition exist independent of our synthetic activities. *A fortiori*, we do not passively receive information about these properties of objects through our senses. Proponents of a “constructivist” reading of

ways of combining the manifold are excluded by (what Kant takes to be) its essentially Euclidean nature (this means, *inter alia*, that one cannot combine the manifold to form a three sided figure whose angles add up to more or less than 180 degrees).

³⁰ Kant seems to think that the act of determining the magnitude of an object always involves some determination of figure (such that one cannot determine the former without determining the latter). Such a view helps to explain why he thinks we cannot determine temporal duration without relying on the “image of a line” (B156).

Kant would accept this last point. By contrast, proponents of an “intuitionist” reading, including Falkenstein himself, would reject it. In the next section, I will draw on the results of previous sections to highlight the shortcomings of both types of reading. But first it is necessary to explain what these readings are and why commentators have been drawn to them.

4. Is Space Given by Sensibility or Constructed by the Intellect? Two Answers and Their Problems

4.1. Intuitionism vs. Constructivism

Lorne Falkenstein usefully draws on information-processing terminology to distinguish two very different answers to the question of the title of this section: constructivism and intuitionism. A constructivist about space, according to Falkenstein, is one who denies that the spatio-temporal output of cognition is already contained in the input, in the information passively received by a cognitive system. Rather, for the constructivist, the relevant spatial-temporal content – in particular, the spatio-temporal order in which an array of sensations occur – must be “worked up” and generated through acts “such as association, inference, comparison, abstraction, combination, or composition.”³¹ By contrast, an intuitionist about space, according to Falkenstein, is one who takes the spatio-temporal output of cognition – in particular, the spatio-temporal order in which an array of sensations occur – to be already contained in the input, in the information passively received by a cognitive system, prior to any processing acts on the part of the cognitive subject. Falkenstein goes on to

³¹ Falkenstein, *Kant’s Intuitionism*, 8.

argue that Kant's claim that space is the form of intuition is fully consistent with an intuitionist picture of spatial cognition. The trick is to recognize that a form, which he takes to be a spatial array of sense impressions, can be distinct from and undetermined³² by these sense impressions, and yet nonetheless be *given* immediately along with them.³³ Falkenstein calls such an immediately given form a "presentational order."³⁴

Though some might object to the information-processing idiom in which Falkenstein frames his distinction, it offers a helpful, preliminary means of classifying two very different readings of Kant's account of space. Commentators tend to fall into two camps based on how they construe the respective contributions of sensibility and the understanding (or the imagination) in the representation of space.³⁵ Constructivists like Wayne Waxman, Beatrice Longuenesse, Wilfred Sellars, and John McDowell (who all accept the Synthesis Reading discussed in Chapter 2) deny that features of space and spatial objects are given to us in sensible intuition. Rather, they say, space for Kant is "a form of availability to intuition ... [that] already involves the understanding," as John McDowell puts it.³⁶ While constructivist commentators

³² It is in the underivability of the form of intuition (the spatial ordering) from the sensible matter of intuition that the "preliminary, negative sense" of *apriority* relevant to the first metaphysical exposition consists, according to Falkenstein. See Falkenstein, *Kant's Intuitionism*, 160ff.

³³ See Falkenstein, *Kant's Intuitionism*, 5ff.

³⁴ Falkenstein, *Kant's Intuitionism*, 136 and 276–279.

³⁵ See, for instance, Falkenstein, *Kant's Intuitionism*, 7ff; Allison, *Kant's Transcendental Idealism* (2004), 114; and Rukgaber, "Space, Time, and Body in Kant," 168–170 for a distinction between these two camps. (Note that Rukgaber speaks of constructivists and "empiricists".)

³⁶ McDowell, "The Logical Form of an Intuition," 27. Cf. Sellars, *Science and Metaphysics*, 30: "the so-called forms of sensibility become ever more clearly, as the argument of the *Critique* proceeds, forms of conceptual representations."

disagree about whether space specifically presupposes *concepts*,³⁷ they agree that space rests on intellectual acts broadly construed (where this is supposed to leave room for “pre-discursive” acts of synthesis), and that no information about space or spatial properties is given solely through sheer sensibility. There is no pre-intellectual “presentational order” such as Falkenstein describes. Longuenesse and Waxman formulate the constructivist view especially provocatively when they say that space is an *entia imaginaria*, a creature of the imagination.³⁸

In contrast to constructivists, who tend to stress the Transcendental Logic, intuitionists stress the Transcendental Aesthetic, where they find Kant making the claim that information about space and the spatial features of objects in space (including their size, magnitude, position) is part of the brute data of sensibility. As noted above, for Lorne Falkenstein, a form of intuition is conceived of as a presentational order; more specifically, it is a spatial arrangement of sense impressions that mirrors the spatial arrangement of the objects that act on us.³⁹ Following Falkenstein, Henry Allison describes space as a form of intuition as a “preconceptual pattern or order” that “confronts thought as a brute datum, and therefore, as something simply given....”⁴⁰ While intuitionists emphasize different aspects of the spatial content immediately given in intuition – Falkenstein and Allais emphasize the given

³⁷ Sellars and McDowell argue for the strong point that the forms of sensibility are dependent on concepts (see note above); Longuenesse and Waxman argue for the weaker claim that the pure intuition of space presupposes a pre-conceptual, pre-discursive synthesis of the imagination.

³⁸ See Waxman, *Kant's Model of the Mind*, 33 and Longuenesse, *Kant and the Capacity to Judge*, 214–225.

³⁹ Falkenstein, *Kant's Intuitionism*, 4.

⁴⁰ Allison, *Kant's Transcendental Idealism* (2004), 113.

spatial order and positions of sensory items⁴¹; Allison⁴² the unitary nature of the given space;⁴³ Allais⁴⁴ its egocentricity (its being centered on a subject, with axes of left-right, up-down, etc) – they all accept the Brute Given Reading laid out in Chapter 2.⁴⁵ They all agree that a unitary spatial framework, in which sensory items have definite spatial properties (like figure, magnitude, and position) is given to us in sensibility independently of the unity of apperception and any intellectual activities. The job of the intellect, for Allison and other proponents of the intuitionist view, is not to ground or *produce* a spatial order, but rather to “uncover or bring to consciousness one that is given independently of it.”⁴⁶

In general, intuitionists are motivated by a desire to remain faithful to Kant’s distinction between sensibility and the intellect, enshrined in remarks like the following:

The manifold of representations can be given in an intuition that is merely sensible, i.e., nothing but receptivity, and the form of this

⁴¹ See Falkenstein, *Kant’s Intuitionism*, 4–5 and 170, and Allais, “Kant, Non-Conceptual Content and the Representation of Space,” 407.

⁴² Allison, “Reflections on the B-Deduction,” 36–37; Allison, “Where Have All the Categories Gone,” 73; Allison, *Kant’s Transcendental Idealism* (2004), 114–116, 189–193, and 483.

⁴³ One can also find stress on the given unity of space in Falkenstein, “Kant’s Transcendental Aesthetic,” 146: “The unity of space and time may nonetheless be a condition of the intelligibility of experience (B161n), but the fact that our experience is ultimately intelligible depends on what is given to the intellect to work with and not just on what it can do to it (B123).”

⁴⁴ See Allais, “Kant, Non-Conceptual Content and the Representation of Space,” 408.

⁴⁵ Though intuitionists all accept the Brute Given Reading, the intuitionist reading is not identical with the Brute Given Reading. The latter claims, roughly, that space is given as a unity, while the former makes this claim *as well as* the claim that the figure, magnitude, and position of spatial objects and regions of space are given.

⁴⁶ Allison, *Kant’s Transcendental Idealism* (2004), 114. See also Falkenstein, *Kant’s Intuitionism*, 78 and 98–100. In this regard, Falkenstein distinguishes two possible models for construing the combinatorial role of the intellect: there’s the sort of combination involved in the assembly of a jigsaw puzzle, which constructivists take to be the relevant metaphor for understanding the role of the understanding in the cognition of space; and “there’s the sort of combination involved when one simply recognizes that an outline ought to be drawn in one way rather than another within a mosaic, so that one type of figure rather than another, is depicted” (98). The latter is how the intuitionist understands the role of the understanding in spatial cognition.

intuition can lie *a priori* in our faculty of representation without being anything other than the way in which the subject is affected. (B129)

...[I]nner sense, on the contrary, contains the mere form of intuition, but without combination of the manifold in it, and thus it does not yet contain any determinate intuition at all, which is possible only through the consciousness of the determination of the manifold through the transcendental action of the imagination (synthetic influence of the understanding on the inner sense), which I have named the figurative synthesis. (B154)

By intuitionists' lights, the form of intuition alluded to in these passages and in the Transcendental Aesthetic is the presentational order or spatial framework mentioned above, and it represents the distinctive contribution of sensibility, as opposed to the understanding. Intuitionists recognize, however, that this form "must first be run through, taken up, and combined in order to form a cognition from it" (A77/B102). On their interpretation, a "formal intuition" is what results when a form of intuition (which possesses its own order and unity, independent of the understanding) is taken up by the intellect and synthesized in accordance with concepts. According to their reading, a formal intuition is the same as what Kant calls elsewhere a determinate intuition.⁴⁷ (Recall that this is a key feature of the Brute Given Reading.)

Constructivists, by contrast, are motivated by a desire to accommodate the argument of the Transcendental Deduction, which seeks to show that the data of sensibility are necessarily subject to the categories. According to constructivists, Kant's strategy in the Deduction is to show that the conditions under which objects can be given to us are subordinate to the conditions under which they can be thought –

⁴⁷ Allison, *Kant's Transcendental Idealism* (2004), 115 and Falkenstein, *Kant's Intuitionism*, 78 and 383.

that is, to reveal an intellectual component in the very form of an intuition.⁴⁸ And they find Kant making such a move at B160–161, where he says that space as a formal intuition presupposes a synthesis. In contrast to intuitionists, constructivists take a “formal intuition” to be not a conceptualized, “meta” representation of some prior, immediately given data of sensibility, but rather a re-description of a form of intuition in light of the Transcendental Deduction.⁴⁹ (Recall that this is a key feature of the *Synthesis Reading*.)⁵⁰

Constructivists place a lot of weight on passages like the following:

Yet the combination (*conjunctio*) of a manifold in general can never come to us through the senses, and therefore cannot already be contained in the pure form of sensible intuition; for it is an act of spontaneity of the power of representation.... (B129)

Composition cannot be perceived as given, we must make it ourselves: we must compose if we are to represent something as composite (even space and time). (Ak. 11:515)

Waxman, for instance, takes these passages to show that nothing ordered (or unitary) is given to us in intuition,⁵¹ and thus that there is no presentational order in Falkenstein and Allison’s sense. Falkenstein and Allison have a general strategy for

⁴⁸ McDowell, “Hegel’s Idealism,” 73: “The essential move [of the Transcendental Deduction] is to deny that the Transcendental Aesthetic offers an independent condition for objects to be given to our senses. We can connect the way our sensibility is formed, the topic of the Aesthetic, with the unity of space and time as (objects of) ‘formal intuitions’ (B160n.).”

⁴⁹ See Longuenesse, *Kant and the Capacity to Judge*, 214ff. and Longuenesse, “Synthesis and Givenness,” 66–67. See also McDowell, “Hegel’s Idealism,” 74: “So the formedness of our sensibility, the topic of the Aesthetic, cannot after all be fully in view independently of apperceptive spontaneity. The unity constituted by conformity to the requirements of our sensibility, which is the unity of the pure formal intuitions of space and time, is not a separate unity, independent of the unity that consists in being informed by the categories.”

⁵⁰ Though constructivists all accept the Synthesis Reading, the constructivist reading is not identical to the Synthesis Reading. The latter claims, roughly, that the unity of space is the result of synthesis, while the former claims that all *a priori* features (including unity, manifoldness, figure, magnitude, and position) of space and spatial objects are the result of synthesis.

⁵¹ See Waxman, *Kant’s Model of the Mind*, 79ff.

responding to such texts.⁵² They read Kant as denying that a spatially ordered manifold could be grasped by a subject *as a manifold* without her combining the elements of the manifold into a single representation.⁵³ Crucially, this is not to deny that the given spatial sensory manifold possesses its own distinctive unity and arrangement. It is just to deny that the unity and arrangement could be thought or perceived as such without an act of synthesis on the subject's part. This distinction between the order in which things are intuited and the representation of this order gives Falkenstein and Allison a general strategy for accounting for the passages in the Transcendental Deduction in which Kant says that the unity of space, or the unity of intuition, depends on synthesis and the unity of apperception. Kant is not saying that the unity of space, and the specific spatial relations and shapes that items of the manifold stand in, are constructed; rather, he is saying that in order to represent the spatial sensory manifold with the properties that it has, it is necessary to synthesize it in accordance with the unity of apperception.

With regard to the last point, Falkenstein brings in the following helpful analogy:

Consider a child's picture-book where the game is to find certain objects cleverly camouflaged in a line drawing – a knife, say, outlined in the bark of a tree, or a train in its leaves. When the child sees the knife or the train, there is a sense in which it, too, 'combines' the manifold – it takes the various points and lines in the picture and combines them under the concept 'knife' or 'train' rather than under the concept 'tree.'⁵⁴

⁵² Falkenstein, *Kant's Intuitionism*, 83.

⁵³ See Allison, *Kant's Transcendental Idealism* (2004), 169, 189–193 and Falkenstein, *Kant's Intuitionism*, 76–77 and 98ff.

⁵⁴ Falkenstein, *Kant's Intuitionism*, 98.

The shapes, magnitudes, and positions of bodies are given in the manifold of intuition just as the knife and train are given in the picture drawing. The task of the subject of experience is not to *construct* or generate the spatial properties of objects (those are already there) but to bring them under the unity of apperception by thinking or perceiving them under the relevant concepts. The analogy brings out how the conceptualization of a manifold of intuition rests on a “preconceptual pattern or order,” to use Allison’s phrase.⁵⁵

4.2. Evaluation of Intuitionism and Constructivism

Neither intuitionism nor constructivism is fully adequate. Though there are numerous minor objections that one could make to each account, I will focus on what I take to be their most serious shortcomings. One major problem with intuitionism is that it deploys the Brute Given Reading. In Chapter 2, I spent considerable time arguing that, *pace* the Brute Given Reading, Kant does think that at least one feature of space – namely, its unity – is dependent on a feature of the discursive understanding. Insofar as intuitionists claim that the unity of space is a brute given of *sheer sensibility* they are in trouble. Moreover, I also showed in my critique of the Brute Given Reading that the intuitionists’ construal of formal intuition as determinate intuition is untenable. A formal intuition is the unitary space of the Aesthetic, while a determinate intuition is a conceptualized representation of a region of space that has a definite figure and magnitude.

⁵⁵ Allison, *Kant’s Transcendental Idealism* (2004), 114.

Another serious problem concerns the claim that objects are *passively given* to us as having a definite figure and magnitude. Recall, for instance, Falkenstein's likening of the data of sensibility to a child's line drawing, in which various objects are hidden. According to such a reading, the shapes and magnitudes of objects are already present in intuition; the task of the understanding is simply to grasp the objects under the appropriate concepts. One objection to this reading is that it fails to recognize Kant's agreement with Crusius about the fact that the figure and magnitude of space require some outside metaphysical determination. Intuitionists assume that Kant regards figure and magnitude as given to us as metaphysically determinate and as in need of only *epistemic determination*. But we have seen that Kant, like Crusius, would reject such a claim. Another objection to this reading is that it seems to give insufficient weight to Kant's use of the word 'generate' – as in, we *generate* determinate spaces. But the most serious objection to the intuitionist reading, in my opinion, is that it wreaks havoc with the theory of geometry that Kant presents in the Axioms of Intuition. Let me elaborate.

One of the goals of the Axioms of Intuition is to show that the *a priori* truths discovered by the geometer (e.g. that the sum of the angles of a triangle is 180 degrees) are applicable to the objects that we perceive. Kant does not think the considerations adduced in the Transcendental Aesthetic are sufficient to show that our *a priori* geometrical knowledge of *pure geometrical* objects carries over to the objects of perception. Kant has not ruled out the possibility that the objects of perception are radically unlike pure geometrical objects, perhaps having very different geometrical

properties, or perhaps not even having extended magnitudes at all. If this were the case, then “space and time, as pure as these concepts are from everything empirical and as certain as it is that they are represented in the mind completely *a priori*, would ... be without objective validity” (A156/B195). In order to show that the truths of geometry have objective validity, Kant needs to show that they necessarily apply to the objects of outer perception.

As I read the Axioms of Intuition, Kant rules out the possibility of a radical mismatch between pure geometry and the objects of perception by showing that the act of combination at work in perception (the figurative synthesis) is identical to the act by which the geometer constructs purely geometrical objects in pure intuition, and governed by the same rules (namely, the axioms and postulates of Euclidean geometry). We can be sure that the truths that we arrive at by constructing figures and magnitudes in pure intuition apply to the objects of outer perception because we construct their figure and magnitude in exactly the same way. In other words, the theory of geometry that Kant presents in the Axioms of Intuition requires him to hold that the figure and magnitude of the objects of outer perception are *metaphysically determined* by constructive acts of synthesis. Yet, intuitionists deny that we construct these features; instead they are supposed to be given to us. However, this makes it very hard to see how it could be anything but a lucky coincidence if the objects of perception happen to be like those of pure geometry. Since Kant does not think it is a lucky coincidence that the results of construction in pure intuition apply to the objects of perception, it cannot be the case that figures and magnitudes are simply given to us

in the latter. If they were, what possible reason would we have to think that they resemble, and obey the same laws as, the figures and magnitudes that we construct in pure intuition?

Proponents of constructivism are not vulnerable to these objections, since they allow that we construct the figure and magnitude of the objects of outer perception. Nevertheless, they make other mistakes. One serious problem is that they accept the Synthesis Reading. As I argued in Chapter 2, it is a mistake to think that the unitary space of the Aesthetic is the result of an act of synthesis. This view is incompatible with Kant's other commitments. In addition, Kant explicitly denies it when he says that space "cannot be brought under any concept capable of construction but ... still contains the ground of all possible constructions" (Ak. 20:420).

Another serious problem is that, on the constructivist reading, Kant becomes indistinguishable from German Idealists like Reinhold, who obliterate the distinction between sensibility and the understanding.⁵⁶ One of the distinctive features of Kant's philosophy *vis-à-vis* German Idealism is its dualism; Kant thinks that the understanding and sensibility are genuinely distinct faculties that make independent contributions to cognition. Here is one of a number of clear statements to this effect:

In the above proof, however, I still could not abstract from one point: namely, from the fact that the manifold for intuition must already be

⁵⁶ Michel Fichant brings precisely this charge against Longuenesse in his essay "'Space is represented as an infinite given magnitude': the radicality of the Aesthetic," *Philosophie* 56 (1997): 20–48. Longuenesse responds to this charge in her essay, "Synthesis and Givenness." Her response consists in saying that she, unlike Fichte does not say that the understanding produces sensibility. But merely saying this is not enough to acquit her of the charge. For by denying that we can single out any representational content supplied by sensibility alone, it is not clear how sensibility and the understanding can be distinguished within her interpretation.

given prior to the synthesis of understanding and independently of it.
(B144)⁵⁷

Constructivists cannot accommodate this passage. On the constructivist reading, sensibility plays no role independent of the intellect, at least when it comes to the formal conditions of experience (like space and time).

For this reason, constructivists are forced to say that, in the *Transcendental Analytic*, Kant is revising (or “re-reading”) the views that he put forth earlier in the *Critique*, particularly in the *Transcendental Aesthetic*, one of whose central tenets is that sensibility makes an *a priori* contribution to cognition that is entirely separate from, and irreducible to, any contribution of the intellect. Indeed, constructivists take Kant to be revising his cherished Form Thesis. In particular, they read him as substituting for his original claim that our pure intuition of space is *what allows* all the manifold of empirical intuition encompassed by it to be synthesized, the claim that our pure intuition of space is *the result* of a synthesis by the understanding. This is neither a plausible nor a charitable way to read Kant.

4.3. A Three-Fold Division of Labor

The constructivist maintains that space is generated by the intellect rather than given in intuition by sensibility; the intuitionist maintains the opposite. We have seen that neither position is acceptable. Briefly put, the constructivist is wrong insofar as sheer sensibility has to make a distinct contribution to the spatial content of outer intuition; the intuitionist is wrong insofar as the unity of space and the figure and

⁵⁷ Falkenstein uses this passage as the epigraph of *Kant's Intuitionism*.

magnitude of regions of space and bodies depend on features of the discursive intellect. Where does that leave us?

Though the constructivist and intuitionist readings appear to exhaust the range of interpretive possibilities, this is simply because of the misleading way in which they formulate the question at issue between them: *is space given by sensibility or constructed by the intellect?* Because of the way they have posed the question, both constructivists and intuitionists overlook the following middle-position: some features of space are given by sensibility, while others are grounded in the OSUA, and yet others are the result of constructive acts of synthesis.

As we saw in Chapter 2: sensibility supplies the form of intuition_b. The manifoldness of this form has no ground in the understanding or in anything else; it is a brute fact. The unity of space, by contrast, is immediately grounded in the OSUA. Finally, the figure, magnitude, and location of regions of space and objects in space are constituted by acts of categorial synthesis. In this chapter, I have argued that the *figurative* synthesis – which is a synthesis in accordance with the categories of quantity – is responsible for the (metaphysical) determination of figure and magnitude. (In Chapter 4, I explore the role of another synthesis – a synthesis in accordance with the category of community – in the determination of location.) On my view, Kant is committed to a three-fold division of labor, such that certain features of space are brutally given, others are rooted in the OSUA, and yet others are generated from acts of synthesis (of which there are two noteworthy types: synthesis in accordance with the categories of quantity and synthesis in accordance with the category of community).

This interpretation allows us to preserve Kant's dualism without saddling him with an intuitionist stance that is clearly incompatible with his other commitments. It also allows us to see Kant as remaining committed to the original version of the Form Thesis. In the *Transcendental Analytic*, Kant does not revise the Form Thesis (as constructivists maintain). Instead, he elaborates his metaphysics of space in these sections, which is exactly what we would expect given the metaphysical character of the Form Thesis.

5. Conclusion

The goals of this chapter were two-fold: first, to get clear on the nature of outer perception (and in particular, the sort of determination that is operative in it) and second, to show how the conclusions I have reached so far are relevant for the debate between intuitionism and constructivism. In the first half of the chapter, I argued that (1) an outer perception is a determinate empirical outer intuition: a conceptualized representation of a manifold of matter-filled regions of space; (2) the spatial features that are determined in outer perception are figure and magnitude (but not location); (3) the sort of determination at issue is metaphysical: Kant thinks that figure and magnitude need to be constituted; and (4) Kant offers both realist and idealist accounts of this determination. My argument for (3) rested on textual and historical considerations (particularly, the similarities between Kant and Crusius's position).

In the second half of the chapter, I turned to the debate between intuitionism and constructivism. In the context of my critique of intuitionism, I showed how the theory of geometry that Kant lays out in the *Axioms of Intuition* requires an idealist

account of (metaphysical) determination. Namely, the only way that we can be sure that objects of outer perception are like those of pure geometry is if we literally construct their figure and magnitude through an act of figurative synthesis. I also drew on the results of Chapter 2 (in particular, my critique of the Brute Given and Synthesis Readings) to show that neither intuitionism and constructivism is tenable. In place of those readings, I offered an interpretation according to which Kant is committed to a three-fold division of labor: the manifoldness of space depends solely on sensibility; the unity of space is grounded in the OSUA, and the figure, magnitude, and location of regions of space and objects in space are grounded in acts of synthesis.

This chapter was largely focused on the Axioms of Intuition, which is part of the first half of Kant's *Analytic of Principles* (in the *Transcendental Analytic*). In the fourth (and last Chapter), I turn to the second half of the *Analytic of Principles*. There, Kant fills out the realist and idealist sides of his metaphysics of space further, focusing on the determination of spatial location.

Chapter 4:
Outer Experience, Community, and the Determination of Location

“Without community every perception (of appearance in space) is broken off from the others, and the chain of empirical representations, i.e., experience, would have to start over with every new object without the previous one being in the least connected or being able to stand in a temporal relation with it” (A213–214/B260–261)

“But we can readily grasp the possibility of community (of substances as appearances) if we represent them in space, thus in outer intuition. For this already contains in itself *a priori* formal outer relations as conditions of the possibility of the real (in effect and countereffect, thus in community)” (B293)

1. Introduction

In the previous three chapters, I have explored Kant’s account of space insofar as it is developed in the Transcendental Aesthetic, the Transcendental Deduction, and the Axioms of Intuition. At the most general level, I have been concerned to show the following. First, the account developed in these sections is part of a consistent, genuinely metaphysical account of the nature of space that attempts to define space and explain its properties from two complementary standpoints, the empirical and the transcendental. Second, from the empirical standpoint, the properties of a region of physical space (in particular, its figure and magnitude) are grounded in the properties of the objects that occupy that space (in particular, their figure and magnitude). In the absence of such objects, the parts of space lack such properties; they are not, as it were, endowed with intrinsic figures and metrics. Third, from the transcendental standpoint, the *a priori* properties of space and the spatial properties of objects in space (in particular, their figure and magnitude) are grounded in various properties and

functions of the discursive intellect. (The key exception here is the *manifoldness* of space.) Fourth, despite its radically idealistic flavor, this metaphysics of space has much in common with Kant's earlier, pre-Critical metaphysics of space, where ideas about the relationship between space, God, and community loom large.

In this final chapter, I examine Kant's account of space insofar as it is developed in the later sections of the *Transcendental Analytic*, in particular the Analogies of Experience and the General Note on the System of Principles. Though Kant's account of space in these sections has received relatively little attention,¹ in these sections Kant's views on the relationship between space and community cease to be hidden and move out into the open. These sections thus provide important confirmation for my claim in Chapter 1 that the concept of community plays a crucial role in Kant's account of space. In these sections, Kant explicitly thematizes the relationship between community and space, affirming that community is in some sense necessary for space, and that space is in some sense necessary for community. Though the latter claim was discussed in Chapter 1, its precise sense could not yet be fully clarified. Moreover, since the focus in Chapter 1 was on the *Transcendental Aesthetic* (as opposed to the *Transcendental Analytic*, where Kant explores the role of the categories, such as the category of community), the former claim was not even mentioned. Nevertheless, an understanding of these claims is crucial for a full grasp of Kant's mature metaphysics of space.

¹ Three important exceptions here are Buchdahl, *Metaphysics and the Philosophy of Science*, 577–587; Margaret Morrison, "Community and Coexistence: Kant's Third Analogy of Experience," ["Community and Coexistence"] *Kant-Studien* 89/3 (1998): 257–277; and Jeffrey Edwards, *Substance, Force, and the Possibility of Knowledge: On Kant's Philosophy of Material Nature [Substance]* (Berkeley: University of California Press, 2000).

In this concluding chapter, I make Kant's views on the reciprocal relationship between space and community my focus, attempting to clarify the precise respects in which community is necessary for space and space is necessary for community, and attempting to show that and how the account of space presented here is consistent with the parts of Kant's account of space explored in earlier chapters. Whereas most commentators regard Kant's claims about space in the later sections of the *Analytic of Principles* as epistemological in nature,² when they do not simply ignore them, focusing instead on the more salient (and seemingly more significant) issue of *time-determination*, I argue that these claims have a metaphysical dimension as well. In these sections, Kant is concerned with the nature of space and the conditions that must be satisfied in order for a perceived object to have a determinate spatial location relative to others.

As was the case in the *Aesthetic*, *Deduction*, and *Axioms of Intuition*, Kant's view in the later sections of the *Analytic* is that the nature and properties of space, and in particular, the relationship between space and community, can be explicated from two complementary standpoints. As I will argue in this chapter, the following is Kant's position. From the empirical standpoint, space is necessary for community insofar as, by its nature, space is an objective³ relational framework that grounds the possibility of the community, and thus the co-existence (that is, existence in the same world), of the substances in it. From the transcendental standpoint, space is necessary

² For examples of this prevalent approach, see Guyer, *Kant and the Claims of Knowledge* and Arthur Melnick, *Kant's Analogies of Experience [Kant's Analogies]* (Chicago: University of Chicago Press, 1973).

³ Space is objective – that is, mind-independent – from the empirical standpoint, because it itself serves as the criterion for mind-independence. See Chapter 1 for a discussion of this point.

for community insofar as, by its nature, space is a merely subjective relational framework that makes it possible for us to determinately apply the category of community, along with the general idea of co-existence, to the objects that we perceive.

Kant's claim that community is necessary for space also has two senses, corresponding to these two standpoints. From the empirical standpoint, community is necessary for space insofar as there is no determinate spatial location, and thus no spatial co-existence,⁴ without substances that causally interact with one another. From the transcendental standpoint, community is necessary for space insofar as the spatial objects of different perceptions do not stand in determinate spatial relations with one another, and thus do not co-exist in the same (merely subjective) space, unless their corresponding perceptions are combined in accordance with the category of community. As I will show, this construal of Kant's claims about the relationship between space and community fits with Kant's pre-Critical views on the topic, is consistent with the other parts of Kant's metaphysics that I explicated in previous chapters, and helps to clarify otherwise mysterious features of Kant's arguments in the Analogies and the General Note on the System of Principles.

In §2, I discuss the general project of the Analogies and the General Note on the System of Principles. In §3, I offer a metaphysical reading of Kant's claim in the General Note on the System of Principles that space is necessary for community; I also show how this claim is linked to Kant's view that space is a necessary condition for objective experience. In §4, I examine Kant's claim in the Third Analogy that

⁴ By 'spatial co-existence,' I mean existence of objects in the same space.

community is necessary for space, show how it is linked to Kant's claim that community is necessary for objective spatial experience, and present the standard interpretations of the argument of the Third Analogy. In §5, I pave the way for my own reading by situating the Third Analogy in the context of the issue of space-determination and examining Kant's pre-Critical views on this topic. In §6, I explicate the argument of the Third Analogy in light of the previous section. In §7, I conclude by explaining how the aspects of Kant's metaphysics of space explored in these sections fit with those of previous chapters.

2. The Place of Space in the Analytic of Principles

In the Analytic of Principles, Kant discusses two classes of principles, which correspond to two classes of categories: "mathematical" and "dynamical."⁵ The former principles, and the categorial headings associated with them (quantity and quality) are the topic of the Axioms of Intuition and the Anticipations of Perception. Kant regards the mathematical principles as constitutive, by which he means that all appearances conform to them insofar as they are objects of determinate intuitions, i.e., *perceptions*. That is to say, these principles and categories are required for the very perception of an object (A160/B190). In Chapter 3, I explored, *inter alia*, Kant's account in the Axioms of Intuition of how we generate the *a priori* spatial features of the objects of perception by synthesizing the manifold of intuition in accordance with the categories of quantity. As we saw, the categories of quantity, and the Axioms of

⁵ For a discussion of this distinction, see Guyer, *Kant and the Claims of Knowledge*, 183–190 and Watkins, *Kant and the Metaphysics of Causality*, 190.

Intuition, which serve as rules for the quantitative synthesis, literally serve to constitute the figure and magnitude of the objects of perception; without their application, there would be no perceived objects with these features.

By contrast, the dynamical principles and the categorial headings associated with them (relation and modality) are merely regulative, which means that they are not constitutive of objects insofar as they are *perceived*. Rather, these principles and their corresponding categories are necessary for objects insofar as they are *experienced* – that is, insofar as they are the objects of judgments of experience.⁶ That the dynamical principles and categories are linked to experience rather than perception, as are the mathematical principles and categories, is particularly evident in Kant’s characterization of the “principle” of the Analogies: “Experience is possible only through the representation of a necessary connection of perceptions” (A176/B218). The dynamical principles and categories, when applied in judgments about the objects of perception, serve to connect manifolds of perception with necessity (B201).⁷ Because objective experience, for Kant, is cognition of objects that rests on a necessary synthesis of representations of this sort, the dynamical principles and

⁶ For an especially clear identification of *experience* with *judgments of experience*, see the *Prolegomena* (Ak. 4:309–310).

⁷ Kant distinguishes here between synthesis in accordance with the dynamical categories and synthesis in accordance with the categories of quantity. According to Kant, the latter is a synthesis of a homogeneous manifold, one whose parts can be mathematically combined arbitrarily (e.g. I could compose two triangles from the manifold, or a single rectangle, or I could compose a rectangle divided into two triangles, etc). The only constraints on the quantitative/figurative synthesis are the postulates and axioms of Euclidean geometry. In that sense, the quantitative synthesis is not a *necessary* synthesis (i.e. one that can only be carried out in a single way). By contrast, the dynamical synthesis is a non-arbitrary (and thus necessary) synthesis of an “unhomogeneous” manifold – one whose parts can only be dynamically combined in a single way (B201–202). As I understand Kant’s usage of the term ‘homogeneous,’ one and the same manifold can be mathematically homogeneous and dynamically unhomogeneous. Indeed, Kant seems to think that every part of the phenomenal world is at once mathematically homogeneous and dynamically unhomogeneous with every other.

categories function as conditions of the possibility of objective experience: without them, there is no experience of an objective spatio-temporal world.

The dynamical principles and categories are the topic of the later sections of the *Analytic of Principles*: the Analogies, the Postulates of Empirical Thinking in General, and the General Note on the System of Principles, which was added in the B-edition of the *Critique*. As was the case in the earlier sections of the *Analytic*, where Kant was concerned to show (1) that we cannot perceive objects in space and time without synthesizing our spatio-temporal intuitions in accordance with *all* the mathematical categories, and (2) that the mathematical categories and principles are valid for us only with respect to objects given in space and time, in these later sections, Kant is concerned to show (1) that we cannot have objective spatio-temporal experience without synthesizing our perceptions (i.e. our determinate intuitions)⁸ of objects in space and time in accordance with *all* the dynamical categories,⁹ and (2) that the dynamical categories and principles have a valid use only with regard to objects given in space and time. Though Kant covers considerable ground in these sections, attempting to explicate the role of every dynamical category in space and time-determination, in this chapter, I will limit my attention to Kant's claims about the relationship between space and the category of community, which occur, respectively, in the Third Analogy, and in the General Note. These claims are the following: (1) the

⁸ I argued that perceptions are a species of determinate intuition in Chapter 3.

⁹ One might wonder whether Kant succeeds in showing that we must use all the dynamical categories in order to have objective experience. Matters are relatively straightforward in the case of the *relational* categories, provided we understand objective experience as including experience of objective temporal duration, succession, and simultaneity. Matters are much less straightforward in the case of the modal categories. Here, I think one is right to be skeptical that Kant has succeeded in showing that these are absolutely indispensable for objective experience (unless one simply stipulates that objective experience includes experience of the various modalities, but in that case the claim becomes trivial).

category of community is necessary for joining together perceptions into objective spatial experience, that is, cognition of spatial co-existence, and (2) the intuition of space is necessary for giving objective reality to the category of community.

At this point, one might object that my decision to focus on space and community in the context of the Analytic of Principles is perverse given that Kant's primary emphasis in these sections is on *time*-determination. Since it is clearly Kant's view that the categories get their meaning through time (see, e.g., A138/B177), rather than space, why should one expect that Kant has anything interesting to say about space and space-determination in these sections? While a full response to this worry requires spelling out the account and pointing to its interesting aspects – precisely the task of this chapter – the following reply is sufficient for now. Though it is true that the various modes of time-determination provide the schemata for the categories, transforming them from empty forms of thought into meaningful concepts of objects, it is also Kant's view that, as Guyer puts it, “the use of these schemata – and thus of the categories themselves – requires objects in space.”¹⁰ In other words, though time-determination, in virtue of its *apriority* and universality, is the only thing fit to provide the categories with meaning, the determinate application of the categories to objects of perception requires space in addition to time. In particular, the categories must be used for space-determination,¹¹ in addition to time-determination.

¹⁰ Guyer, *Kant and the Claims of Knowledge*, 168.

¹¹ Though Guyer does not, to my knowledge, use the term ‘space-determination’ he stresses the importance of the issue of the determination of spatial position for the various arguments of the Analogies. See, for instance, *Kant and the Claims of Knowledge*, 170. Margaret Morrison stresses this issue as well; see Morrison, “Community and Coexistence,” 269. Though Morrison's reading is similar in some ways to my own, a key difference is that, as Morrison understands the Third Analogy, to say that substances mutually interact is *equivalent* to saying that they determine one another's spatial

The importance of space-determination was already evident in our discussion of the Axioms of Intuition, where Kant argues that the “category of quantity” is required for the determination of the magnitudes and figures of the objects of a particular perception. As we saw, the spatial-determination at issue is not merely epistemological – it is not as though the categories of quantity, and the principles associated with its application, are necessary merely for *recognizing* the exact magnitudes and figures of the objects of perception, as if these objects were somehow given to us with all these properties intact and the task for us was merely a matter of finding them out. Rather, these *a priori* spatial properties are *generated* by a synthesis of the manifold of intuition in accordance with the categories of quantity. As I will argue below, in the Third Analogy Kant argues for a similar view with regard to the category of community: it is required for the determination of the spatial relations among the objects of different perceptions; these spatial relations only exist insofar as perceptions are connected in accordance with a judgment involving the category of community. I will have more to say below about the sort of space-determination at issue in the Third Analogy. As a preliminary to this, however, I will discuss Kant’s claim in the General Note on the System of Principles that the category of community *requires* space for its determinate application. As I will show, this is a metaphysical claim that follows from Kant’s definition of space.

position. For Morrison, the sort of mutual interaction at issue in the Third Analogy is one that does not involve the attribution of force or causal power to substances. By contrast, I understand Kant to be saying in the Third Analogy that the determination of spatial position requires substances to interact *causally*, bringing about changes in one another through their respective forces.

3. Space as a Condition on the Possibility of Community (and Objective Experience)

In the General Note, Kant claims that “in order to understand the possibility of things in accordance with the categories, and thus to establish the objective reality of the latter, we do not need merely intuitions, but always outer intuitions” (B291).¹² A category has “objective reality” for Kant if and only if it can be determinately applied to objects of sensible intuition – that is, if it can be used to determine specific features of such objects.¹³ According to Kant, outer intuitions – that is, spatial intuitions – are required in order to make sense of the possibility of determinately applying the categories to objects. Kant concludes the General Note on the System of Principles by arguing for this claim in regard to the category of community:

Finally, the possibility of the category of community is not to be comprehended at all through mere reason, and thus it is not possible to have insight into the objective reality of this concept without intuition, and indeed outer intuition in space. (B292)

The truth of these claims is far from obvious: why should space be required for us to make sense of the possible determinate application of the categories, and in particular the category of community? Why isn't the appeal to time sufficient, especially since it is time that serves to provide the categories with their meaning? It is not enough for Kant to reply here that space is a form of intuition, since it is not clear why it should follow from this fact alone that we cannot understand the determinate application of the category of community without space – why shouldn't the possible

¹² For two of the few extended discussions of this note in the secondary literature, see Morrison, “Community and Coexistence,” 266–268 and Friedman, *Kant and the Exact Sciences*, 38–39.

¹³ Recall from Chapter 2 that there is a difference between *applying* the categories and *determinately applying* them (that is, using them to determine specific features of objects). The latter is required for cognition (as opposed to mere thinking).

use of the category depend on time alone? Here it is important to note that it follows from Kant's claim that space is necessary for grasping the possible determinate application of the category of community that space is necessary for making sense of the possibility of objective experience, since objective experience requires the determinate application of the category of community. But, again, why should we think that space is necessary for the possibility of objective experience? Why isn't it sufficient to appeal to time, and the difference between the subjective order of perceptions and the objective temporal of objects, in order to make sense of the possibility of objective experience?

Fortunately, in Chapter 1, I laid much of the groundwork for understanding Kant's reasons for claiming that spatial intuition is required to make sense of the possible determinate application of the category of community, and in turn, the possibility of objective experience. In that chapter, I argued that Kant takes it to be definitive of space that it is a framework that grounds the possibility of the community of the substances in it. This Fundamental Conception of space is neutral with respect to the question of whether or not this framework is mind-independent. As we saw earlier, Kant thinks we arrive at different answers, depending on whether we take up the empirical standpoint (where space itself serves as the criterion for mind-independence), or the transcendental standpoint (where things-in-themselves set the standard for mind-independence). From the former standpoint, the framework in question is taken to be "out there" in the world independent of our minds. It is regarded as existing prior to the substances in it, and as making possible their

reciprocal causal relations. From the latter standpoint, which we adopt in order to account for the possibility of *a priori* cognition of empirical objects, and which requires us to deny the mind-independence of these objects, space is regarded as a merely subjective framework – in particular, a formal intuition – that grounds the possibility of our synthesizing the empirical manifold given within it. Once we realize that the specific synthesis or combination that space (in contrast to time) makes possible is a combination of the manifold of perception *in accordance with the category of community*, we are in a position to understand why Kant thinks that space is required for the possibility of the determinate application of the category of community. It is definitive of space, as viewed from the transcendental standpoint, that it makes it possible for us to combine perceptions through judgments that deploy the category of community. To deny Kant’s claim that “it is not possible to have insight into the objective reality of this concept [that is, the concept of community] without intuition, and indeed outer intuition in space” (B292) is to deny the content of our concept of space, a concept that, for Kant, is inextricably linked to the idea of community. Once we properly grasp this concept, we understand that we cannot determinately apply the category of community to sensible objects without the intuition of space. Given (what Kant takes to be) the close connection between the concepts of community and co-existence (in the abstract, “metaphysical” sense of existence in the same world)¹⁴ it also follows that we cannot determinately apply the concept of co-existence to sensible objects without the intuition of space.

¹⁴ It seems to me that other commentators have failed to notice the different senses of the term ‘co-existence’. On the one hand, the term can simply mean existence *together*; on the other hand, it can

At this point, a possible misunderstanding might arise. The “transcendental” definition of space as a subjective framework that enables *us* to combine perceptions in accordance with the category of community, and thus to apply the category to sensible objects in a determinate fashion, does not have any implications for the capacities of non-human creatures. It is consistent with the possibility that other types of discursive creatures are able to determinately apply the category of community without relying on the intuition of space. Moreover, it is consistent with our being able to *entertain the thought* of a set of substances that do not exist in a common space and yet stand in a community with one another.¹⁵ It is important that Kant’s theoretical philosophy not preclude such a thought, because his moral philosophy requires belief in such a community (a kingdom of ends). Kant is careful not to deny that we can coherently think such a community without space. What he does deny is that we could comprehend, i.e. have *insight* into, the possibility of such a community without the intuition of space. As he writes,

Leibniz, who ascribed a community to the substances of the world only as conceived by the understanding alone, needed a divinity for mediation; for from their existence along this community rightly seemed to him incomprehensible. But we can readily grasp the possibility of community (of substances as appearances) if we represent them in space, thus in outer intuition. (B293)

mean existence together *at the same time*. On the former use of term, it can be applied to atemporal entities (like concepts, propositions, and things-in-themselves). On the latter use of the term, it can only be applied to temporal entities.

¹⁵ Moreover, I think that Kant wishes to allow for the *thought* that a set of substances could have temporally simultaneous states without those substances being in a space. Margaret Morrison’s reading of the Third Analogy and the General Notes on the System of Principles seems to preclude our having such thoughts. For Morrison’s Kant, there can be no community and co-existence that is not spatial. See Morrison, “Community and Coexistence,” 269. By contrast, for my Kant, we cannot *determinately apply the category of community to sensible objects* without relying on the intuition of space. Nevertheless, we are free to *think* whatever we like.

The intuition of space makes possible insight into the possibility of community because space just is the subjective framework that allows us to combine perceptions in accordance with the category of community, and thus determinately apply it to objects. By Kant's lights, Leibniz's misunderstanding of the essential role played by space is what led him to his ill-fated doctrine of pre-established harmony.

The considerations laid out in the preceding paragraphs allow us to make sense of Kant's claim that space makes possible objective experience. In the context of the Analogies, Kant equates objective experience with objective *temporal* experience. As Strawson explains, Kant reduces the problem of ascertaining what is necessary to turn a temporal succession of perceptions into experience of an objective reality to the problem of discovering the necessary conditions of the possibility of distinguishing two sets of relations: the time-relations of the objects and those of the perceptions themselves.¹⁶ For Kant, what distinguishes a merely subjective temporal ordering of perceptions from an experience of an objective temporal ordering of objects is that, in the case of the latter, perceptions are synthesized *via* judgments employing the dynamical categories (B218). In the Analogies Kant is concerned to explicate the role of different dynamical categories in different modes of objective temporal experience. In the Third Analogy Kant argues that the category of community is required for experience of objective simultaneity. (I will have more to say about this argument below.) Because objective experience, for Kant, includes experience of objective simultaneity, and because the latter requires the determinate application of the category of community, the determinate application of the category of community is a

¹⁶ See, Strawson, *The Bounds of Sense*, 124

condition of the possibility of objective experience. However, in the General Note on the System of Principles, Kant claims that space is required for the determinate application of the category of community, a claim which we explicated above. Thus, space is a condition of the possibility of objective experience, because it is a condition of the experience of *objective simultaneity*.¹⁷

It is important to see that, on this reading of Kant's claims that space is necessary for the possibility of community and for objective experience, they are not mere epistemological claims as some commentators have imagined.¹⁸ Kant does not think that the representation of space, or representations of objects in space, is required to *justify* the application of the category of community (and thus claims about co-existence). Rather, these claims are metaphysical, stemming from reflection about our concept of space. Such reflection reveals that space is a relational framework that grounds the possibility of the community of the substances in it. Viewed from the standpoint of transcendental idealism, this framework is a merely subjective representation that makes possible a synthesis of perceptions *via* judgments involving the category of community. That is just what space is, for Kant. As we will see, however, this is not the end of the story, since there is an important respect in which, for Kant, certain spatial properties of the objects of perception depend for their existence on applications of the category of community.

¹⁷ Amazingly, this point goes completely unnoticed in Cassam, "Space and Objective Experience" and Evans, "Things Without the Mind".

¹⁸ Such as Guyer, *Kant and the Claims of Knowledge*; Allison, *Kant's Transcendental Idealism* (2004); and Cassam, "Space and Objective Experience".

4. Community as a Condition on the Possibility of Spatial Experience

So far, we have looked at one side of the reciprocal relationship between space and community: space is a condition on the possibility of community, and with it, objective experience. In the previous section, I tried to explain why, and in what sense, Kant holds this thesis. In this section, I begin to examine the converse claim: community is a condition on the possibility of spatial experience. The specific task for this section will be show how this claim arises in the context of the Third Analogy, and to present some influential readings of this argument. The task for subsequent sections will be to argue for a metaphysical reading of the claim, to show how this illuminates the argument of the Third Analogy, and to show how the claim fits into Kant's larger metaphysics of space, including Kant's claim that space is a condition for the possibility of community.

4.1. Introduction to the Analogies

As noted above, the basic task of the Analogies is to show that and how the relational categories (substance/inherence, causation, and community) function as conditions on the possibility of objective experience. In the Metaphysical Deduction, Kant had shown that the relational categories belong to our set of pure concepts, and in the Transcendental Deduction, Kant had shown, in a general way, that they have a valid application to the objects of experience.¹⁹ However, up until the Analogies he has not shown that they are absolutely necessary for objective experience, and he has

¹⁹ See Watkins, *Kant and the Metaphysics of Causality*, 187ff., for a clear discussion of the respective roles of the Transcendental Deduction and the Analogies.

not yet explicated their particular role in objective experience. Thus, Kant has still left the door open for a stubborn Humean to claim that the relational categories are unnecessary. In the Analogies, Kant closes this door. He argues that objective experience is only possible if the relational categories are applied in judgments about the objects of perception. (Admittedly, Kant does not always argue explicitly that we need to “apply” a given category, like the category of causation, in order for a certain type of objective experience to be possible, arguing instead that causation is necessary for a certain type of objective experience. Nevertheless, it is important to see that he must also be arguing for the former claim, since otherwise he has no response to the Humean.)²⁰ As noted above, Kant proceeds by equating objective experience with objective *temporal* experience, that is, experience of objective temporal relations, and argues that the relational categories are required for determining objective temporal relations.

Though many commentators have tried to minimize the dependence of the Analogies on earlier sections of the *Critique*, hoping to find a self-contained anti-skeptical argument untainted by the dubious arguments and doctrines of earlier sections of the *Critique*,²¹ it is a mistake to attempt to read the Analogies in isolation from the other parts of the *Critique*. Kant’s remarks in the introductory section of the Analogies show that he takes himself to be building on the argument of the Transcendental Deduction, particularly on the claims about synthesis, the unity of apperception, the nature of objects, and the legislative role of the understanding

²⁰ That the conclusion of each Analogy is a claim about the necessary *application* of a category is more evident in the *Prolegomena* (see, e.g., Ak. 4:308).

²¹ Guyer is a proponent of this sort of reading. See Guyer, *Kant and the Claims of Knowledge*, 209.

presented there. In this section, Kant says for instance that the “general principle of all three analogies rests on the necessary unity of apperception with regard to all possible empirical consciousness (of perception) at every time” (A177/B220) and references to synthesis and apperception occur throughout the different analogies. In addition, at various places, Kant seems to take for granted the transcendental idealist view that what distinguishes merely subjective experience from objective experience, and in particular, what distinguishes a merely subjective temporal ordering of perceptions from objective experience of temporal relations, has nothing to do with facts about mind-independent objects but rather with facts about our minds. In particular, it has to do with the way representations are synthesized or connected. One place where this idea is particularly evident is the Third Analogy itself, where Kant makes reference to the peculiar idea of a “community of apperception”: “In our mind all appearances, as contained in a possible experience, must stand in a community (*communio*) of apperception” (A214/B261). As I understand it, a “community of apperception” is a set of perceptions that have been so combined as to yield experience of objective temporal relations.²² Such experience is the result of connecting perceptions through judgments employing pure concepts (in particular, the relational categories). The arguments of the Analogies presuppose the general (transcendental idealist) idea that whatever connections obtain among the objects of perception are the result of a discursive intellect’s combining those perceptions together. This idea was already argued for in general form in the Transcendental Deduction. Where the Analogies go beyond the Deduction is in showing in detail how different modes of objective time-

²² For a very different reading of this cryptic phrase, see Edwards, *Substance*, 43ff.

determination are linked to different relational categories. An important desideratum for readings of these arguments is that they be clear how these arguments fit with and build on the claims and arguments of earlier sections of the *Critique*, particularly the doctrine of the unity of apperception.

4.2. The Role of Space in the Third Analogy

The First and Second Analogies are concerned, respectively, to argue for the necessity of applying the categories of substance and causation. Whereas Kant argues in the First Analogy that the application of the category of substance is required for all modes of objective time-determination, in the Second Analogy, the application of the category of causation in a judgment is specifically linked to the determination of objective temporal succession among the objects of different perceptions. These objects, as Kant argues in the First Analogy, are permanent substances with changeable states. In the Third Analogy, Kant argues that the application of the category of community in a judgment is required for the determination of the *temporal* co-existence (or simultaneity) of the states of these substances.²³ As in the First and Second Analogy, Kant begins by pointing to the *problematic* character of such time-determination.²⁴ Though one might think it is relatively easy to establish that the states of two substances are simultaneous, in the case where the substances are the objects of *different* perceptions, it is by no means obvious how I can determine that their states

²³ The significance of Kant's focus on states of substances for the argument of the Third Analogy is emphasized in Watkins, *Kant and the Metaphysics of Causality*.

²⁴ For a very clear discussion of the problems inherent in time-determination, see Watkins, *Kant and the Metaphysics of Causality*, 188–190.

are simultaneous rather than successive. After all, there is no obvious way of “reading” off from the substances (or from my perceptions) the times at which they are in various states. Moreover, if they are the objects of different perceptions, then the order in which I perceive them does not necessarily reflect the objective temporal order of their states. For my perceptions are always successive, even when the states I am perceiving at different moments (for instance, this house’s having a door, which I perceive at t_1 , and its having a roof, which I perceive at t_2) are themselves objectively simultaneous.

One might respond at this point that there is an important difference between perceptions of objective succession (for instance, the perception at t_1 that a moving ship is at point A and the perception at t_2 that the same ship is at point B)²⁵ and perceptions of objective simultaneity. Namely, the former are not “order-indifferent”; it is not arbitrary in what order they occur. By contrast, the latter are order-indifferent. However, the problem with using order-indifference as a guide to objective time order is that it is not “given” to us. In fact, it seems that the only way to know whether or not our perceptions are order-indifferent in a particular case is by knowing whether they are or are not of objectively successive states of substances. Rather than serving as the criterion for objective time order, order-indifference is the consequence of objective time order.²⁶

²⁵ This example is slightly misleading, insofar as it suggests that the temporal order in which our perceptions occur (so-called subjective time order) is somehow immediately given to us. This is not Kant’s view. As Guyer (*inter alia*) notes, Kant’s Refutation of Idealism turns on the idea that we do not have immediate knowledge of the temporal order in which our perceptions occur. See Paul Guyer, “Kant’s Intentions in the Refutation of Idealism,” *Philosophical Review* 92 (1983), 329–383.

²⁶ Watkins makes a very similar point in his discussion of the Second Analogy; see Watkins, *Kant and the Metaphysics of Causality*, 206.

As will become clearer below, in addition to these broadly epistemological questions about time-determination, there is also a metaphysical question that needs to be answered, one that is in some ways more fundamental. The question can be posed as follows: how is it that the objects of different perceptions (that is, substances with changeable states) come to have time-relations in the first place? What is the metaphysical ground for the fact (if it is indeed a fact) that the state of substance A, which I perceive at t_1 , is simultaneous with the state of substance B, which I perceive at t_2 ? This question can be sensibly asked both from the transcendental perspective (where we regard space, as well as the objects of perception, as mind-dependent) as well as from the empirical perspective (where we regard space and the objects of perception as mind-independent). I will return to this question, and Kant's answer to it, below.

Considerations about space enter the argument of the Third Analogy because Kant takes it for granted that we can only experience that the states of substances are simultaneous insofar as we represent the substances associated with them in *space*. In particular, we can only experience the states of two substances as existing at the same time if we also experience those substances as having determinate spatial locations relative to one another. Indeed, so closely does Kant associate temporal co-existence with spatial co-existence that in the second edition of the Third Analogy, the principle to be argued for is formulated in terms of space: "All substances, insofar as they can be perceived in space as simultaneous, are in thoroughgoing interaction" (B256). (I will have more to say in section 6 about the inference from the temporal simultaneity

of the states of substances to the spatial co-existence of the substances.) The Third Analogy establishes *both* that the application of the category of community is required for the determination of objective temporal simultaneity among the objects of different perceptions, and that the application of the category of community is required for the determination of *spatial co-existence* among the objects of different perceptions. The latter conclusion is explicitly formulated towards the end of the section, where Kant writes that without “dynamical community ... even the local community (*communio spatii*) could never be cognized” and “without community, every perception (of appearance in space) is broken off from the others” (B260). Kant’s claim here is that there can be no determination of the spatial position of the objects of different perceptions without judging these objects in accordance with the category of community (and the category of substance-inherence).

For the purposes of this chapter, the Third Analogy raises three questions that need to be answered: First, why, and in what sense, does Kant think that the determination of spatial co-existence, specifically, the determination of spatial position among the objects of perception, requires the application of the category of community? Second, what is the relationship between this claim and the claim that the determination of objective *temporal* co-existence among the objects of different perceptions requires the application of the category of community? Does Kant think that one claim follows from the other, or are they both conclusions of the same abstract line of argument merely elaborated in different ways? In other words, does the argument prioritize considerations about space-determination, or about time-

determination or about neither? Third, what role, if any, do specifically metaphysical considerations about space and community play in the argument?

4.3. Three Readings of the Third Analogy

In this section, I present and critique three influential readings of the Third Analogy: P.F. Strawson's, Paul Guyer's, and Eric Watkins'. These readings provide different answers to the above questions, and differ markedly in their sophistication. By criticizing them, I will begin to lay the groundwork for my own reading.

Strawson's reading of the Third Analogy is brief and unsympathetic. For Strawson, the argument of the Third Analogy is no better than the argument of the Second Analogy, which he notoriously labels "a non sequitur of numbing grossness."²⁷ The Third Analogy, on Strawson's view, turns on an equivocal use of the phrase "mutual determination of position." Strawson sees Kant as starting from the fact that temporally co-existing objects occupy positions relative to one another in the same space, and thus mutually determine one another's location in the sense that each's position is defined in terms of the others (the book in my office is five feet to the right of this cup, which is one foot from the door, etc). According to Strawson, Kant (illegitimately) infers from this fact that the objects mutually determine one another in the sense of mutually interacting – that is, each is the causal ground for determinations in the others. Kant thus substitutes a trivially true claim involving the phrase 'mutual determination' for a claim involving a much more substantive use of it, whereby it has the sense of reciprocal causation. On Strawson's reading, the argument

²⁷ Strawson, *The Bounds of Sense*, 138

is analytical-metaphysical in nature, proceeding from an analysis of the idea of objective co-existence, which supposedly contains the idea of mutual determination of position.²⁸ According to Strawson, it is based on considerations about determining spatial position that Kant arrives at his conclusion, though the argument ends up being sophistical.

We find a much more charitable reading of the argument in Guyer's *Kant and the Claims of Knowledge*. For Guyer, the arguments of the Analogies are epistemological in nature: Kant is concerned with the conditions for *justifying* judgments about temporal relations. Kant general strategy, according to Guyer, is to show that such judgments can only be justified if one holds certain beliefs (that is, forms certain judgments) about the causal relations of objects. Judgments about the objective temporal relations of the objects of different perceptions cannot be justified with the aid of mere perception since (1) time is not directly perceivable, and (2) the temporal order of our perceptions (subjective temporal order) is different from the temporal order of the objects of our perceptions (objective temporal order). It is because mere perception cannot provide the epistemic foundation for judgments involving objective temporal relations that we must appeal to judgments about causal relations.²⁹

In the case of the Second Analogy, Guyer takes Kant to be arguing that judgments regarding the objective temporal succession of the items given in different perceptions can only be justified with the aid of (justified) judgments involving the

²⁸ Ibid.140.

²⁹ Guyer, *Kant and the Claims of Knowledge*, 246.

category of causality. In the Third Analogy, Guyer takes Kant to be arguing that judgments regarding the objective temporal co-existence of the objects of different perceptions can only be justified by means of (justified) judgments involving the category of community.

But this is not the whole story, since Guyer also aims to provide an account of the role of space in the argument, and indeed in the Analogies overall. According to Guyer, it is Kant's view that well-founded beliefs involving causal relations are not sufficient for justifying judgments about the objective temporal relations of the objects given in perception. What are also required are beliefs involving the objective spatial relations of those objects. These beliefs, in turn, can only be justified by means of (justified) beliefs about the dynamical relations of the objects.³⁰ Though Guyer is not as explicit about this as one might wish, for him the epistemic grounding relation between judgments about temporal relations, spatial relations, and dynamical relations is as follows: judgments about objective temporal relations are immediately grounded on judgments about objective spatial relations, and these in turn are grounded on judgments about causal relations. In the case of the Third Analogy, this plays out as follows: in order to justify a judgment about the objective co-existence of the states of two substances, a judgment about the objective spatial relations of those substances is necessary, in particular, a judgment to the effect that they are located relative to one another; the justification of this judgment in turn requires a judgment that the substances in question act on another.

³⁰ See, Guyer, *Kant and the Claims of Knowledge*, 267, 269, and 270.

According to Guyer, Kant's reason for thinking that judgments about spatial relations are not justified through mere perception is analogous to his reason for thinking that judgments about temporal relations are not justified through mere perception: space, like time, is not directly perceivable. We are no more directly given the objective spatial relations of substances than we are their objective temporal relations; we must infer the latter from the former, and the former through judgments about causal relations.³¹

As repeatedly emphasized, Guyer sees the arguments of the Analogies, including the argument of the Third Analogy, as turning on epistemological considerations about the conditions for forming justified beliefs about objective temporal relations and spatial relations: justified beliefs about the former class of relations require justified beliefs about causal relations. On Guyer's reading, it is because of the dependence of judgments about temporal relations on judgments about spatial relations, and in particular, because of the dependence of judgments about co-existence on judgments about spatial relations, that Kant closes his discussion of the Third Analogy with a discussion of space. It is a virtue of Guyer's reading that it accounts in this way for the role of space in the Third Analogy, just as it is a virtue of his reading of the argument that it does not, like Strawson's, render Kant guilty of sophistry, though in the end, Guyer like Strawson, thinks that Kant ultimately fails to show that *mutual interaction* is required for knowledge of objective co-existence.³² A serious weakness of his reconstruction, however, is that Guyer fails to make clear why

³¹ Ibid. 274

³² Ibid. 272–273.

judgments about objective temporal relations depend on judgments about objective spatial relations. Another weakness is that Guyer fails to explain how we could justify judgments about causal relations without appealing to judgments about spatial and temporal relations. If he concedes that the former depend on the latter, as he seems to do in various places, then the threat of circularity looms large: judgments about spatial and causal relations are not possible without judgments about causal relations, but the latter are not possible without judgments about spatial and temporal relations. Yet a further weakness is that Guyer fails to explain how the Third Analogy's claim that judgments involving the category of community are required for judgments about relative spatial location is consistent with Kant's claim in the General Note on the System of Principles to the effect that space is required for the application of the category of community. Here, too, circularity looms.

In *Kant and the Metaphysics of Causality*, Watkins brings some of the above problems³³ to light in the context of his highly sophisticated, historically sensitive reading of the argument of the Third Analogy. Whereas Guyer takes the arguments of the Analogies to be epistemological in nature, Watkins argues that these arguments have a metaphysical dimension as well. Watkins agrees with Guyer that in the Analogies Kant is concerned with the conditions under which we can *know* objective temporal relations. Nevertheless, he goes further than Guyer in holding that Kant is also concerned with the conditions under which such relations can *exist*. This last point is connected with Watkins' and Guyer's different construals of the notion of 'time-determination,' the central theme of the Analogies. Guyer takes the sense of

³³ See Watkins, *Kant and the Metaphysics of Causality*, 198ff.

determination here to be a purely epistemological one: to determine a temporal relation is to discover it, to find out what it is. Watkins, by contrast, takes ‘determination’ to have a further metaphysical dimension: for a temporal relation to be determined, in this sense, is for it to be constituted. Accordingly, Watkins understands the Analogies to be concerned with the question of how various objective time-relations are constituted in the first place and he sees Kant as presenting conditions for the existence of such time-relations. Such conditions are ontological, because they make possible the existence of temporal relations among objects, but they are also conditions on our knowing that various temporal relations among objects obtain, insofar as we cannot know that a given objective temporal relation obtains unless it does in fact obtain. It is in virtue of the latter fact that Watkins sees the argument as having an epistemological dimension.³⁴ However, in contrast to Guyer, Watkins denies that knowledge of objective time-relations requires that we hold *justified beliefs* about causal relations among objects (or, more exactly, among substances); rather, what is required is that such relations obtain in order to constitute objective time-relations in the first place.

In the specific case of the Third Analogy, Watkins takes Kant to be arguing that knowledge of the objective co-existence of states of substances requires that these substances stand in mutual interaction, since this is a condition on their objective co-existence. Watkins gives us strong reasons for thinking that the position advanced in the Third Analogy is largely continuous with Kant’s pre-Critical views, and draws on those views to provide a powerful argument for the argument’s central premise – there

³⁴ Ibid. 200ff.

can be no objective co-existence among the states of substances unless those substances act on one another reciprocally. Of all the readings looked at, Watkins' is by far the most charitable, since only he succeeds in attributing to Kant an argument that actually secures his intended conclusion.

However, despite the many virtues of Watkins' account, it is vulnerable on several points. One potential shortcoming of the account is that Watkins has little to say about the role of space in the argument.³⁵ In contrast to Guyer, who has a story about why Kant discusses the relationship between dynamical relations and spatial relations in the Third Analogy, and a story about the relationship between knowledge of spatial relations and knowledge of temporal relations, Watkins does not discuss either of these issues. Nevertheless, this is hardly a devastating problem for Watkins' view. Indeed, it would be possible for Watkins to supplement his account of why objective temporal relations require causal relations with an account of the relationship between temporal relations and spatial relations, and an account of the relationship between spatial relations and causal relations. There are at least two general directions in which Watkins could go on this point, while still offering a hybrid metaphysical and epistemological reading. One possible direction would be to somehow show that the constitution of temporal relations (or perhaps, specific types of temporal relations) is dependent on the constitution of spatial relations, and then show that the latter

³⁵ This may be because Watkins thinks that Kant addresses the question of how we can have objective spatial experience (which requires the determination of space) in the *Metaphysical Foundations of Natural Science*. See Watkins, *Kant and the Metaphysics of Causality*, 193n. Though I agree with Watkins that this question is being addressed in the MFNS, I think that the account developed there is an elaboration and specification of the one already present in the *Critique*.

relations are immediately dependent on causal relations.³⁶ Another would be to show that, though the constitution of temporal relations does not depend on spatial relations (or vice-versa), the constitution of both types of relations is dependent on causal relations, and indeed, for analogous reasons.

A potentially more serious problem for Watkins' reconstruction of the Third Analogy is that what he takes to be the argument's conclusion does not quite fully correspond to the overall goals of the Analogies. As Watkins formulates it, the argument's conclusion is: "in order to have knowledge of objective coexistence, substances must stand in mutual interaction."³⁷ But as we saw above, the Analogies are meant to establish that the relational categories have to be applied in judgments in order for objective experience, understood as objective temporal experience, to be possible. This leads one to expect that the conclusion of the Third Analogy is a claim to the effect that experience of objective co-existence [i.e. simultaneity] requires the application of the category of community (or mutual interaction) in a judgment. This is not identical to Watkins' version of the argument's conclusion: to show that knowledge of objective co-existence requires that substances mutually interact is not to show that experience of objective co-existence requires the application of the category of community. The latter claim requires that we do something with the category of community, namely, judge by means of it; the former requires merely that there be relations of mutual interaction.

³⁶ This is the reading I will opt for.

³⁷ Watkins, *Kant and the Metaphysics of Causality*, 220.

This problem is related to another problem involving Watkins' construal of the term 'determination.' While Watkins is certainly right that this term has a metaphysical dimension for Kant, such that to determine temporal relations is to *constitute* them, and while Watkins is right that Kant sometimes talks as though determination requires causal grounds lying outside the subject of experience, it is also the case that Kant often talks as though the determination is something that the subject does. When Kant talks in this vein, which is part and parcel of the transcendental standpoint on the world, he takes the activities of the subject to be that which constitutes the determinations of the objects of perception. It is natural to carry this over to the case of the determination of temporal and spatial relations among the objects of different perceptions. If we do this, then we expect Kant to offer some account of how the subject constitutes these relations. But Watkins talks as though such determinations have their source in extra-subjective grounds. Now, Kant may well think that there is a standpoint from which this is the correct metaphysical account of the basis of spatial and temporal relations, namely, the empirical standpoint, but there is also reason for thinking that Kant finds this metaphysical account unsatisfactory from another standpoint, namely, the transcendental idealist one. In general, Watkins has little to say about the role of transcendental idealism in the Analogies. Like Guyer, his reconstruction of the Analogies mostly abstracts from the subject-dependence of the various formal relations constituting the world. But it is by no means obvious that this was Kant's intention. In subsequent sections, I will offer

a reconstruction of the argument of the Third Analogy that assigns a role to both the realist and idealist elements in Kant's thinking.

5. Time-Determination and Space-Determination

I argued above that the Analogies are not exclusively concerned with the topic of time-determination. Considerations about space-determination are also relevant insofar as Kant holds that the relational categories must be applied in judgments about the objects of both inner and *outer* intuition if there is to be objective experience (we explored Kant's grounds for this claim in §3). In particular, objective experience requires using the categories to determine the temporal relations of the objects of different perceptions, as well as the spatial relations of the objects of different perceptions. The latter issue comes to the fore in the Third Analogy, where Kant argues that the application of the category of community is required for the determination of the spatial co-existence of the objects of different perceptions. This conclusion rests, *inter alia*, on the following premise: the determination of the relative spatial positions of the spatial objects of different perceptions requires the application of the category of community. It is this premise, and Kant's grounds for holding it, that we must now try to understand. This requires getting clear on what the determination of spatial position amounts to, and Kant's reasons for thinking that such determination requires the category of community. Watkins' discussion of time-determination provided an important clue in this regard. According to Watkins, time-determination is a matter of time-*constitution*. Kant holds that the relational categories

are required for the constitution of objective time-relations among the objects of different perceptions. Objective time-relations, on Watkins' view, depend for their existence on causal relations. I suggested above that Kant holds a similar view with regard to the constitution of the spatial relations among the spatial objects of different perceptions; in particular, I suggested that Kant holds that these objects (more exactly, substances) only have a determinate location with respect to one another insofar as they mutually interact.

I still need to show that and why Kant holds this view. After all, it is by no means obvious that spatial relations (in particular, distance-relations) need to be determined, in the sense of being constituted, at all, much less by reciprocal causal relations. At this point, one might object that the requirement that objective spatial relations be constituted follows straightforwardly once we grant that space is not something in itself but rather a merely subjective, given framework for representing objects. And, indeed, Watkins seems to think that the requirement that objective temporal relations be constituted follows straightforwardly from Kant's view that time is a form of intuition.³⁸ But, it does not in fact immediately follow, since one could imagine a philosopher, Kant*, who holds that space and time are merely subjective forms of intuition but who otherwise holds a Newtonian view of them. Kant* would regard space, like Newton, as a framework (albeit a subjective one) of absolute places, each of which stands in fully determinate relations to all the others independent of the existence of any object in space. According to such a view of space, there is a determinate fact of the matter about, say, the *distance* of every place from every other,

³⁸ See, e.g., Watkins, *Kant and the Metaphysics of Causality*, 191.

even when there are no objects in space. Kant* would further hold that any objects given within this framework would, *ipso facto*, be spatially related to one another and to every other place in space. The position of Kant* is not as outlandish as it might appear – a very similar position was held by Crusius, whose account of space incorporates both subjectivist and Newtonian elements in this way.

In the following subsections, I first look at Kant’s pre-Critical account of space (in particular, the account of the *Inaugural Dissertation*) in order to get clear on his reasons for thinking that objects are only spatially located with respect to one another insofar as they stand in community. After that, I show that this view is retained in the Critical Period, and I explain how it relates to Kant’s claim that experience of objective spatial co-existence requires the application of the category of community.

5.1. Kant’s Rejection of Absolute Place and Absolute Space

As I discussed in Chapter 2, in the *Inaugural Dissertation* Kant explicitly attacks a view of space and time according to which these are

primitive conditions which are already given in themselves, and in virtue of which to be sure, and independently of any other principle, it would not only be possible but also necessary that a number of things should be mutually related to one another as joint parts and should constitute a whole. (Ak. 2:391)

Though this point was not thematized in Chapter 2, in attacking the view that space and time are “primitive conditions,” Kant is attacking a view of space according to which it is an all-encompassing container which comes pre-endowed with a fully determinate network of absolute locations and relations between them. Kant associates

this view with the claim that “everything is necessarily somewhere” – a characteristically Crusian idea, though Crusius owes an obvious debt to Newton for his doctrine of absolute place. According to the view Kant has in mind, space, understood as a primitively given set of spatial relations among absolute places, is on its own sufficient to impose specific spatial locations on objects and thereby set them into reciprocal causal relations. He writes:

For, since whatever things exist are, in their opinion, necessarily somewhere, it appears superfluous to them to enquire why these same things are present to one another in a fixed manner. For this, it seems to them, would be determined in itself by the entirety of space, which includes all things. (Ak. 2:406–407)

For proponents of such a view, space constitutes the ultimate basis for the unity among a manifold of substances required for membership in a common world; no further explanatory principle is required, “in order to understand how a certain originary relation, as the fundamental condition of possible influences and the principle of the essential form of the universe should belong to a plurality of existing things” (Ak. 2:406). Those who view space in such a way find the whole idea of an investigation into the ground of a community among substances – precisely Kant’s topic in the *Inaugural Dissertation* – to be otiose.

Part of Kant’s reason for rejecting the Crusian view is that, unlike Crusius, Kant does not think that space is a feature of all substances: the appeal to space as an explanation of cosmological unity will not work in the case of purely intelligible substances, because these are not spatial; space, for Kant, applies to objects only

insofar as they appear to us. But Kant goes even farther than this.³⁹ He asserts that “even if you were to grant this concept the greatest possible reality” (Ak. 2:407) – that is, even if one were to grant that space is something fully objective, encompassing all finite things – space could not, on its own, put substances into determinate relations with one another, either spatial or causal relations. As we saw in Chapter 2, Kant thinks that it is ultimately God’s intellect that grounds the possibility of such relations. As Kant writes,

Accordingly, space, which is the sensitively cognized universal and necessary condition of the co-presence of all things, can be called phenomenal omnipresence. For the cause of the universe is not present to each and every thing simply in virtue of the fact that the cause is in the places in which they are. It is rather the case that places exist, that is to say, that relations of substances are possible, because the cause of the universe is inwardly present to all things. (Ak. 2:410)

Though it is not as clear as one might wish, this passage points to a dependence of determinate spatial relations on causal relations, a view which is evident in a number of other pre-Critical writings.

In a key reflection written around the time of the *Inaugural Dissertation*, we find an argument against the Crusian claim that space puts substances into determinate spatial relations with one another; this argument is particularly significant because it is independent of considerations about God:

The being of a thing in a place can be so expressed: place is the ground of something, which means as much as: to be in a place is to act externally [*äußerlich*] in certain relations. Because in absolute space no relation of one thing to another can be met with (without the relation of

³⁹ Watkins discusses the former point but not the latter. See Watkins, “Kant’s Theory of Physical Influx,” 285–324.

acting on another), a thing cannot be met with in absolute space. (Ak. 17:453)⁴⁰

The gist of this abstract line of argument can be expressed as follows. To say that an object O occupies a place P is to say that it stands in causal relations with objects spatially outside of it. But an absolute space is conceived of as something entirely independent of objects and their causal relations. An absolute space is one that exists even if there are no objects in it; moreover, an absolute space is one whose properties and relations (for instance, the various distance and geometrical relations existing among its unoccupied parts) are prior to, and independent of, the properties and relations of the objects in it. Thus, given the above definition of place, it would be contradictory to say that an object occupies a place in absolute space. Its membership in a place is a function of its causal relations to other objects in other places, but its membership in absolute space is entirely independent of its relations (causal and otherwise) to objects spatially outside of it. A place in absolute space, according to the above argument, is a contradiction in terms.

The above argument is, of course, dependent upon a tendentious definition of place. It would be open to a proponent of absolute space to distinguish between absolute and relational places, maintaining that the former are independent of relations. And indeed, one can find Newton and other advocates of absolute space (such as Crusius) making precisely such a distinction. Here, it is worth reiterating a

⁴⁰ According to the editors of the Akademie-Ausgabe of Kant's work, this reflection was written between 1769 and 1770. Kant makes a remark in a very similar vein at Ak. 17:578 (written between 1772 and 1773): "Absolute space, against which [*wogegen*] created things stand in actual relations, is impossible. For no substance is present somewhere without acting, and indeed outwardly [*äußerlich*]; in absolute space, however, there are no correlates [*Correlate*]."

point made earlier: Kant's conception of places as relations among objects is one that runs very deep in his thinking. One finds it for instance in *Thoughts on the True Estimation of Living Forces* [1747], his earliest work, where he writes, "[W]hen we analyze the concept of what we call location, we find that it suggests the actions of substances on each other" (Ak. 1:21). One finds similar claims in the *New Elucidation* [1755] and the *New Theory of Motion of Rest* [1758] – even in *Directions in Space* [1768], where it sits uneasily with Kant's defense of absolute space. With regard to his conception of places, Kant is in fundamental agreement with Baumgarten⁴¹ and Wolff. Indeed, in a comment written in reference to Baumgarten's account of space, he explicitly says that there is no absolute place, only relative place.⁴²

But Kant does not need to appeal to this tendentious conception of place in order to make the point that it is futile to use absolute space to explain why "it would not only be possible but also necessary that a number of things should be mutually related to one another as joint parts and should constitute a whole" (Ak. 2:391). An object's relation to absolute space, conceived of as an infinite aggregate of absolute places, is independent of its relations to other objects. It is central to absolute space, as Newton, Crusius and others conceive it, that an object's position *vis-à-vis* absolute space entails nothing about its position relative to other objects in space. Indeed, this is the *point* of absolute space: to provide a non-relative frame of reference in order to account for the phenomenon of absolute acceleration. But this aspect of absolute space prevents it from unifying objects in the manner constitutive of a world, since such

⁴¹ Carl, *Der schweigende Kant*, 57, makes this point as well.

⁴² See Ak. 17:453.

objects can only belong to the same world if they are positioned in space *relative* to one another. Given that an object's relation to absolute space entails nothing about its spatial position relative to others, absolute space cannot be responsible for determining objects' relations to one another.

Kant's own view (which he shares with Baumgarten and Wolff) is that (1) a substance only has a determinate position relative to others, and (2) substances can only be spatially positioned relative to one another if they interact. While it may be *necessary* for substances to be in space in order to stand in reciprocal causal relations, the being of a substance in space is not sufficient for its having a *determinate* location in space. It is also required that the substance be determinately positioned relative to others, and such positioning requires that each substance be the ground of (that is, *posit*) some property (i.e. *determination*) in the other. Given that a substance's location is a function of its distance from other substances, the relevant property that each substance must determine is *distance*. If a substance is to have a determinate location relative to other substances, these substances must jointly cause their distance from one another.

5.2. The Determination of Space in the Critical Period

One might expect that the above view of space, according to which objects only occupy determinate places in space relative to one another insofar as they mutually interact, would disappear in the Critical period, when Kant has formulated his doctrine of space as a merely subjective framework. But in the Antinomies chapter

of the *Critique*, we again find Kant explicitly attacking⁴³ a view of absolute space very similar to the Crusian view that he attacks in the *Inaugural Dissertation*:

Thus things, as appearances, do determine space, i.e., among all its possible predicates (magnitude and *relation*) they make it the case that this or that one belongs to reality; but space, as something subsisting in itself, cannot conversely determine the reality of things in regard to magnitude and shape, because it is nothing real in itself. (A431/B459; my emphasis)⁴⁴

As we saw in Chapter 3, ‘determine’ is clearly being used here in a metaphysical, rather than a purely epistemic sense. According to Kant, space is not itself able to metaphysically determine the spatial relations of the places and things in space (appearances), since space, as Kant says a few lines earlier, “prior to all things determining (filling or bounding) it, ... is nothing other than the mere possibility of external appearances...” (A429/B457). In other words, the spatial framework that precedes substances as appearances and makes possible their reciprocal connection, is not, on its own, a fully determinate one. In contrast to a Newtonian view of space, which takes it to be a storehouse of fully-determinate figures endowed with specific magnitudes, and which holds that there is a fact of the matter about the relations and distances among all absolute places, even when space is entirely empty, Kant is denying that there would be any determinate magnitudes, figures, and distance-relations in fully empty space. For Kant, the figure, magnitude and spatial relations of places in space, as well as those of appearances in space, must be determined by the

⁴³ As I noted in Chapter 3, however, Kant’s view of figure and magnitude is closer to Crusius’s than it is to Newton’s. The passage quoted below reflects Kant’s agreement with Crusius about the determination of *figure and magnitude*, just as it reflects his disagreement with Crusius about the determination of *location*.

⁴⁴ Cf. the discussion of this passage in Buchdahl, *Metaphysics and the Philosophy of Science*, 577.

appearances themselves. Though Kant does not say it here explicitly, his view is that appearances determine themselves as having a specific location relative to one another by mutually determining one another, in the sense of *causally* interacting. Substances as appearances have causal properties that jointly determine how far, at a given moment of time, they will be from one another.⁴⁵

At this point, it is natural to wonder what these causal properties might be. The most natural candidates are the attractive and repulsive forces that Kant discusses, *inter alia*, in the Dynamics chapter of the *Metaphysical Foundations of Natural Science*. Indeed, in his argument for the existence of both forces (as opposed to only one), Kant explicitly appeals to considerations about the determination of space. If substances were endowed with only one type of force, substances would not have determinate distances to one another (all bits of matter would either shrink to a point or expand away from one another indefinitely) (Ak. 4:510ff.). With both forces, however, every substance is a determinate distance from every other at every moment. The distance of any substance from all the others at t_2 is determined by their relative distances at t_1 , their relative motion at t_1 , and their attractive and repulsive forces. In this way, each substance is the ground of a relational predicate that attaches to it and every other (namely, distance).⁴⁶

⁴⁵ In this respect, my reading differs fundamentally from Morrison's; see Morrison, "Community and Coexistence," 269.

⁴⁶ I do not mean to suggest that the Third Analogy presupposes the specific account of forces that Kant offers in the *Metaphysical Foundations of Natural Science*. Instead, I see the Third Analogy as putting forth a general claim – namely, all substances must act on one another insofar as they have a determinate spatial position with respect to one another (and states that are simultaneous). The task of the MFNS, in part, is to provide a more detailed account of the causal interaction at issue – both the specific forces at play (attraction and repulsion) and the specific mechanical laws that causally interacting substances obey. While Morrison denies that the Third Analogy involves any ascription of

We again find Kant explicitly asserting that various properties of space need to be determined in the *Prolegomena*: “Space is something so uniform, and so indeterminate with respect to all specific properties, that certainly no one will look for a stock of natural laws within it” (Ak. 4:322). This passage is particularly relevant to our purposes, since Kant here describes the universal law of gravitation as a “universal principle of the determination of space.” Insofar as the universal law of gravitation is the law governing the thoroughgoing mutual interaction of appearances, for Kant to say that the specific properties of space, including relations among places, are determined by this law is for him to say that these properties are determined by the reciprocal causal relations of appearances in space.

In addition to the fact that it is more explicit about the relationship between spatial determination and community, the discussion of the *Prolegomena* brings to light a theme that is completely absent in the passage from the Antinomy Chapter cited above: namely, that the determinations of space “lie” in the understanding. On the face of it, the apparent implication of this claim – that it is the understanding that determines space – is inconsistent with the claim that it is appearances in space, and their relations with one another, that serve to determine space. However, this apparent inconsistency can be eliminated if we are prepared to grant that the latter claim about determination is made from the everyday, empirical standpoint, whereas the former claim about determination is made from the transcendental standpoint. From the former standpoint, space is regarded as an objective framework that makes possible

force or causal power to substances, on the grounds that such an ascription would usurp the task of the MFNS, I think that she is allowing the MFNS to usurp the proper task of the Third Analogy.

reciprocal causal relations among substances. Though from this standpoint, the framework is regarded as existing independent of us and the substances in it, the spatial relations constituting this framework are regarded as indeterminate until the space is occupied by mutually interacting substances. That is, if space were completely empty, there would be places in it, but there would be no fact of the matter about the distance of each from the others. For this, it is required that space be occupied by causally interacting substances.

By contrast, from the standpoint of transcendental idealism, space is regarded as a subjective framework (a formal intuition) that makes possible a necessary connection of perceptions, a connection *via* a judgment employing the category of community. Though from this standpoint, the relational framework is regarded as a merely subjective form of our sensibility, it is up to the understanding to join the manifold of perceptions such that the spatial objects of different perceptions stand in determinate relations with one another, resulting in a determinate (albeit subjective) space, in which each outer perception (along with its corresponding object) is connected in a specific way with every other. From this standpoint, it is as a result of the understanding's connecting different perceptions together that the objects of different perceptions come to have spatial and temporal relations to one another.

The above explanation of the manner in which the understanding determines space is not as outlandish as it might initially sound. It gains support from Kant's characterization of a form of intuition as "that which *allows* the manifold of appearance to be ordered in certain relations" [A24/B34; my emphasis], and from his

repeated assertions in the Transcendental Analytic that all combination requires the understanding. Together, these claims entail that the connection among the spatial objects of different perceptions – their spatial order – is not given to us by our form of sensibility alone (though the *possibility* of such an ordering is given to us); rather, the specific spatial ordering of the objects of perception must be constituted by the understanding, and in particular by its combining perceptions in accordance with the relational categories. Such an interpretation is further supported by passages like the following:

The sensible faculty of intuition is really only a receptivity for being affected in a certain way with representations, whose relation to one another is a pure intuition of space and time (pure forms of our sensibility), which, insofar as they are connected and determinable in these relations (in space and time) according to laws of the unity of experience, are called objects. (A494/B522)

Significantly, Kant says here both that representations (i.e. perceptions) are related within the pure intuitions of space and time and that these representations are called objects – that is, are called *objective experience* – when their spatial and temporal relations are determined according to the laws of the unity of experience. In talking of perceptions being connected by spatial and temporal relations, Kant must mean the spatial objects of different perceptions (since perceptions, being mental entities, are not themselves spatially connected). He is claiming that determinate spatial and temporal relations among the spatial and temporal objects of perception must be imposed by the understanding acting in accordance with the laws of the unity of experience if the representations are to belong to an objective experience, experience of an objective space and time. The laws of the understanding here are the principles

laid out in the Analogies, including the principle of the Third Analogy, which says that all “substances, insofar as they can be perceived in space as simultaneous, are in thoroughgoing mutual interaction.”

6. The Third Analogy Explained

The above analysis puts us in a position to answer the three questions regarding the argument of the Third Analogy that we posed earlier. The first question concerned Kant’s reasons for thinking that judgments about the spatial co-existence of the objects of different perceptions require judgments involving the category of community. Kant’s thinking here is as follows: in order to co-exist in the same space, the objects of perception must occupy spatial positions relative to one another. But that they do so is not evident through mere perception, and this is not just because of some peculiar inability on the part of the human perceptual apparatus to perceive space. Rather, our inability to perceive the spatial positions of the objects of different perceptions stems from a metaphysical fact about location: determinate locations do not exist apart from the actions of the understanding; they only exist once the understanding constitutes them. This determination is metaphysical in nature; it is an act of *constitution*. The space given to us as our form of sensibility is indeterminate. There is no fact of the matter about which objects of perception are spatially located relative to which others until the corresponding perceptions are synthesized in a necessary manner. For Kant, the synthesis relevant for the determination of space is a synthesis *via* judgments that employ the category of community. It is only through

such judgments that space itself comes to be ordered, with the objects of perception, now regarded as substances, occupying spatial positions relative to one another. But why the application of the category of community in particular?

As I see it, Kant's *transcendental* metaphysical account piggy-backs on (what he takes to be) the correct *empirical* metaphysical account. Kant takes the application of the category of community to be required for the determination of spatial location because, from the empirical standpoint, the location of a substance is always relative to that of another, and can only be determined by the substances themselves. Since this determination must take the form of a grounding, each substance must act on the other. Once incorporated into the transcendental standpoint, which treats the understanding as the ultimate source of the determinations of space, this insight turns into the claim that the spatial objects of perception only occupy positions relative to one another once the understanding combines their corresponding perceptions in accordance with the category of community (and substance).

The second question regarding the argument of the Third Analogy posed above concerned the relationship between the claim that judgments about *spatial* co-existence require the determinate application of the category of community and the claim that judgments about *temporal* co-existence (or simultaneity) require the determinate application of the category of community. Though some commentators have suggested that these claims are supported by separate, albeit analogous arguments, my view is that the latter claim is supported by the argument for the former claim. Here Kant is relying on a premise that I explicated in section 3: we cannot

determinately apply the generic concept of co-existence (where the sense is of existence in the same world, without any specifically spatial or temporal connotation) without the intuition of space. As I explained in §3, this is because (1) the generic concept of co-existence is closely linked to the category of community (substances can co-exist in the sense of existing in the same world if and only if they bring about determinations in another), and (2) the determinate application of the category of community requires the intuition of space. Since the concept of *temporal* co-existence (or simultaneity) is a species of the generic concept of co-existence (meaning existence in the same world), if the objective reality of the latter concept depends on the intuition of space, then so does the objective reality of the former concept. In other words, every judgment of temporal co-existence is *ipso facto* a judgment of spatial *co-existence*. (We cannot judge that the states of two substances exist at the same time, without also judging that those substances have a determinate location with respect to one another.) Thus, if judgments of the latter sort require determinately applying the category of community, so do judgments of the former sort.

The third question about the argument of the Third Analogy posed above concerned the role of specifically metaphysical considerations about space and community. Of the three readings of the argument of the Third Analogy that we looked at above, it was Watkins' that assigned a special role to metaphysical considerations. For Watkins, constitution of temporal relations requires causal relations; the relation of temporal co-existence in particular requires reciprocal causal relations. It should be clear that metaphysical considerations also play an important

role in my reconstruction of the argument. Like Watkins, I think that the sense of ‘determination’ relevant to the Analogies is a metaphysical one. However, in contrast to Watkins, I think that the determination of spatial and temporal relations is not accomplished solely by the causal relations of substances in space and time. Though that it is true from the empirical standpoint, a standpoint that Kant occupies at various stages in his argument, it is not the case from the standpoint of transcendental idealism. From that standpoint, it is the understanding that determines (that is, *constitutes*) the specific spatial and temporal relations that the objects of perception stand in. It does this by combining perceptions in accordance with the relational categories. Watkins’ reading ends up giving short shrift to the subjective (yet still metaphysical) aspect of determination. One symptom of this is that Watkins shows merely that there must be community if there is to be temporal simultaneity but not that we must *apply* the category of community. My reading, by contrast, secures the intended conclusion.

7. Conclusion

By way of conclusion, I will dispel two concerns that readers might have about the interpretation of Kant’s account of the “reciprocity of space and community” that I presented in this chapter. The first is that there is some invidious circularity in the account as I have presented it. The worry might be put in the form of a question: how could space be the ground of the possibility of the community of the substances in it, if community is the ground of the possibility of the co-existence of substances in space?

In other words, how could both space and community be ontologically prior to the other? The second worry concerns the consistency of Kant's views about space and community with the metaphysical views presented in previous chapters. It, too, can be put in the form of a question: how are we to understand the respective roles of the unity of apperception, the categories of quantity, and the category of community in the (transcendental) constitution of the spatial objects of perception? Are all really necessary? If so, in what sense are they all necessary?

Both concerns can be dealt with relatively easily. As formulated above, the first concern rests on a misunderstanding. In the *Analytic of Principles*, Kant is not claiming that community is ontologically prior to space. If this were the case, then Kant would have to deny that space could exist in the absence of mutually interacting substances. But it is clear from, among other places, Kant's remarks in the *Metaphysical Exposition* that he sides with Newton on this point: even if God were to annihilate all the substances in space (and with them, their various causal relations) space would continue to exist. Where Kant disagrees with Newton is with regard to the question of whether there are determinate spatial locations in the absence of interacting substances. Here, Kant's answer is "no." Community is required for the objects of outer perception to have determinate distance-relations, and thus to have a determinate location with respect to one another. Community is thus ontologically prior to determinate spatial location but not to space *überhaupt*. If this is correct, then the mature Kant does not *reduce* space to dynamical relations (as he appears to do in

his earliest writings). Nevertheless, he does hold that dynamical relations are required for there to be determinate locations.

The considerations put forth in the paragraph above provide the resources for an answer to the second worry, which concerned the respective roles of various “intellectual” functions (namely, the unity of apperception, the categories of quantity, and the category of community) in the constitution of the spatial objects of perception. While one might worry that some of these functions render the contributions of others otiose, in fact there is a neat division of labor. As I argued in Chapter 3, Kant takes the synthetic unity of apperception to be the ground of the unity of space, while he thinks that a synthesis in accordance with the categories of quantity is necessary for the objects of outer perception to have a determinate magnitude and figure. It should be clear from this chapter what role synthesis in accordance with the category of community plays: it is necessary for the objects of different outer perceptions to be a determinate distance apart and thus to have determinate locations with respect to one another. Together, the unity of apperception, synthesis in accordance with the categories of quantity, and synthesis in accordance with the category of community make possible experience of a common spatial world consisting of substances that have determinate figures, magnitudes, and locations.

Conclusion: The Wheat and the Chaff

In the Introduction to this dissertation, I promised to show three things. First, Kant's Form Thesis is a metaphysical claim (a claim about the nature of space), but it is not Kant's most basic answer to the question "what is space"? Instead, Kant's Fundamental Conception of space is of a framework that makes possible the community [*Gemeinschaft*], and the co-existence, of whatever substances are in it. Second, Kant's argument for this rests, at least in part, on an analysis of the concept of space. Third, Kant's Fundamental Conception and Form Thesis are part of a rich metaphysics of space that combines idealist and realist elements and that is largely continuous with Kant's pre-Critical account of space. In this larger metaphysics, which unfolds in the Transcendental Analytic, Kant explains from two complementary perspectives how various properties of space and spatial objects are constituted.

In general, I promised to give a historically sensitive, minimally anachronistic interpretation of Kant's account of space. I also promised to explain how Kant's claims about space in the Transcendental Analytic do not constitute either a simple epistemological extension of the Form Thesis (as *per* the *Epistemological Extension Reading*), nor a revision of it (as *per* the *Re-reading Reading*), but rather a metaphysical elaboration of the Form Thesis, which is itself an elaboration of the Fundamental Conception.

I believe I have made good on my promises. In Chapter 1, I showed how Kant's Form Thesis relates to his Fundamental Conception of space, and how his argument for the Form Thesis makes crucial appeal to an analysis of the concept of

space. In Chapters 2 through 4, I laid out Kant's views about how the unity and manifoldness of space, as well as the figure, magnitude, and location of regions of space and spatial objects, are constituted. As I explained, in the case of figure, magnitude, and location Kant offers two complementary metaphysical perspectives. From the empirical standpoint, these properties are not intrinsic features of space but rather depend on the existence of objects in space that instantiate them along with other categories (especially the relational categories). From the transcendental standpoint, these properties, together with the unity of space, are explained in terms of the properties and functions of a discursive intellect. (By contrast, Kant regards the manifoldness of space as a brute, irrational fact, one that has no ground in the discursive intellect). Many pages in Chapters 2 and Chapter 3 were concerned with the details of Kant's (rather elaborate) transcendental account.

At times, I wanted to promise more: namely, to show that Kant's metaphysics of space is defensible. However, I soon came to see that the task of getting Kant's views right would provide more than ample work. Worse, I realized that defending all of Kant's views of space is a hopeless task; the best that one could do is to sort the wheat from the chaff.

For Strawson and other commentators following in his footsteps, the obvious chaff in Kant's account is the "imaginary subject of transcendental psychology"¹ – Kant's seemingly endless appeals to various faculties of the mind and acts of synthesis to explain features of the world. Though I do not think that Kant's views on the topics of synthetic unity of apperception, figurative synthesis, and intellectual synthesis can

¹ Strawson, *The Bounds of Sense*, 97

be rejected on phenomenological grounds (as Strawson and others sometimes suggest), I agree with Strawson that the explanatory value of such concepts is extremely dubious. Even worse than an appeal to dormitive virtue, in Kant's transcendental story the obscure is explained through the more obscure.

Unfortunately, half of Kant's metaphysics of space – namely, the “idealist part” – is bound up with his transcendental psychology. As such, it is, I fear, chaff. But half of it is not – namely, the empirical realist part. Though Kant's seems to think that empirical realism cannot stand without transcendental idealism, I see no good argument for this view. It is thus possible that at least some of the views that constitute Kant's empirical realist metaphysics of space might be wheat – and I remain optimistic that wheat will, in fact, be found. Though finding it is a task for future research, getting clear on the details of Kant's actual account was a necessary first step.

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