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FORM AND MATTER IN KANT'S THEORETICAL PHILOSOPHY

A Dissertation

Submitted to the McAnulty College and Graduate School of Liberal Arts

Duquesne University

In partial fulfillment of the requirements for
the degree of Doctor of Philosophy

By

Aaron Higgins-Brake

August 2024

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Aaron Higgins-Brake

2024

FORM AND MATTER IN KANT'S THEORETICAL PHILOSOPHY

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ABSTRACT

FORM AND MATTER IN KANT'S THEORETICAL PHILOSOPHY

By

Aaron Higgins-Brake

August 2024

Dissertation supervised by Jennifer Bates

This dissertation examines the use of the terms “form” and “matter” in Kant’s theoretical philosophy from his earliest publications up to the *Critique of Pure Reason* (1781). I argue that these two concepts have received unfortunately little attention in the development of Kant’s thought and in his mature writings. I begin in Chapter One by examining his increasing use of them in his pre-critical writings culminating in the *Inaugural Dissertation* (1770), where he first develops his theory of space as a form of intuition. Then in Chapters Two to Five, I examine his account of them in his accounts of space, time, and the categories in the *Critique of Pure Reason*. Throughout the dissertation, but especially in Chapter Three, I attend to the historical evolution of the concepts of form and matter, and I argue that Kant’s use of these terms draws, not directly on Aristotle himself who introduced them to philosophy, but rather to a logical

tradition that appropriated and transformed from Aristotle's original physical and metaphysical use of them. In Chapter Four I attempt a novel interpretation of Kant's transcendental idealism, and I argue in particular that the notion of "reality" must be interpreted in terms of the lawfulness of appearances rather than as externality to the mind. Throughout the dissertation I argue that Kant's use of these terms results in failure: he is unable to explain how the forms of experience (whether they be space, time, or the categories) relate to the matter or content of experience. In this way, I argue that Kant fails to meet the challenge of Humean skepticism.

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This dissertation had a long gestation period stemming back to the first course I took on Kant as a doctoral student in 2016 with Jennifer Bates, who later graciously agreed to be the director of this dissertation and has offered diligent criticism and feedback since then. Over the years my work has been informed and influenced by countless conversations and interactions with friends and colleagues. Of special note are, of course, the other two readers of this dissertation, Daniel Selcer and Jay Lampert who have provided helpful feedback on this work. I would also like to acknowledge Thomas Cantone, Berker Basmaci, and Teddy Paikin who invited me to their writing group in 2020 and read and offered helpful feedback on material that eventually turned into the first two chapters of this dissertation.

Early versions and portions of this work were presented at several conferences over the years, including some very early ideas at the Society for European Philosophy and Forum for European Philosophy Joint Annual Conference at the University of Essex in 2018, and at the Third Immanuel Kant International Summer School, Immanuel Kant Baltic Federal University in 2019, both of which helped to solidify the direction of this dissertation.

I would also like to acknowledge several sources of financial support. I was supported by a Doctoral Scholarship from the Social Sciences and Humanities Research Council of Canada from 2015-2019. A DAAD language grant in 2016 enabled me to vastly accelerate my learning of German with two months of intensive study at the Goethe Institut in Mannheim. The following year I was able to return to Germany to do

another course at InterDaF Leipzig thanks to a Polansky Grant from the Duquesne Department of Philosophy. This language study enabled me to take advantage of Duquesne's exchange program with the University of Heidelberg and to spend a productive semester there in Summer 2018. Without this language study, I certainly would not have been able to engage as fruitfully with Kant, and it enabled me to consult some untranslated works of his contemporaries like Crusius and Meier, as well as some helpful works of contemporary German scholarship.

Lastly, I would like to acknowledge the immense support from my family during my studies over the years. My wife, Kait, has been unwavering in her support and encouragement even as I have struggled for a seeming eternity to complete chapter after chapter. A large portion of this dissertation was written during two sojourns with my in-laws, Kathy and John, in 2020 and in 2022-23, and I am grateful for their immense hospitality and support. I am also grateful to my own parents for their continued support throughout my education. Finally, this dissertation may not have come to completion if not for the inspiration of my daughter Flora, my best friend, for whose sake I do everything that I do.

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LIST OF ABBREVIATIONS

Kant's Works

<i>New Elucidation</i>	<i>Principiorum primorum cognitionis metaphysicae nova dilucidatio</i> (1755)
<i>Physical Monadology</i>	<i>Metaphysicae cum geometria junctae usus in philosophia naturali, cuius specimen I. continent monadologiam physicam</i> (1756)
<i>False Subtlety</i>	<i>Die falsche Spitzfindigkeit der vier syllogistischen Figuren</i> (1762)
<i>Only Possible Argument</i>	<i>Der einzig mögliche Beweisgrund zu einer Demonstration des Daseins Gottes</i> (1763)
<i>Negative Magnitudes</i>	<i>Versuch den Begriff der negativen Größen in die Weltweisheit einzuführen</i> (1763)
<i>Inquiry</i>	<i>Untersuchung über die Deutlichkeit der Grundsätze der natürlichen Theologie und der Moral</i> (1764)

<i>Dreams of a Spirit-Seer</i>	<i>Träume eines Geistersehers, erläutert durch Träume der Metaphysik</i> (1766)
<i>Directions in Space</i>	<i>Von dem ersten Grunde des Unterschiedes der Gegenden in Raume</i> (1768)
<i>Inaugural Dissertation</i>	<i>De mundi sensibilis atque intelligibilis forma et principiis</i> (1770)
R	<i>Handschriftlicher Nachlaß</i> , Ak. XIV-XXIII

Other Works

G	Leibniz, G.W. <i>Die Philosophischen Schriften</i> . 7 vols. Edited by C.J. Gerhardt. Berlin: Weidmannsche Buchhandlung, 1875-90.
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Introduction¹

This dissertation undertakes an investigation of the concepts of form and matter in Kant's theoretical philosophy up to and including the *Critique of Pure Reason*. The topic is perhaps a surprising one. The concepts stem back to ancient Greece, and particularly the physics of Aristotle. But according to a conventional understanding of the history of philosophy and science, these concepts were discarded in the 17th and 18th centuries with the advent of modern physics. One relatively recent textbook on the history of science, for instance, describes the impact of Newton's laws of motion universal gravitation as "bur[ying] the moribund Aristotelian world."² Kant was certainly no Aristotelian, but an admirer of Newton and modern science, and he presented his own philosophy in revolutionary terms. So what role could the moribund concepts possibly play in his writings?

An answer to this question is less surprising, however, if one pays attention to the small but not insignificant scholarship that has examined the persistence and reinterpretation of the concepts of form and matter long after supposedly being "buried."³ Furthermore, the significance of the concepts of form and matter in Kant's writings was

¹ All references to Kant's works refer to the volume and page numbers in the *Akademie* edition, with the exception of the *Critique of Pure Reason*, where I use the standard A/B pagination. All English translations of Kant's works, unless otherwise noted, refer to the translations in the Cambridge edition of Kant's works. All other citations are in Chicago style, except when abbreviations are used, e.g. to the Gerhardt edition of Leibniz's works. When quoting works from prior centuries, I retain the original orthography, which may differ from contemporary English, French, and German.

² McClellan, James E. and Harold Dorn, *Science and Technology in World History: An Introduction* (Baltimore: Johns Hopkins University Press, 2015), 268.

³ For instance, Emmerton, Norma, *The Scientific Reinterpretation of Form* (Cornell: Cornell University Press, 1984); Dutilh Novaes, Catarina, "Form and Matter in Later Latin Medieval Logic: The Cases of *Supposito* and *Consequentia*," *Journal of the History of Philosophy* 50, no. 3 (2012): 339-364; Dutilh Novaes, "Logical Hylomorphism and the Demarcation of Logical Constants" *Synthese* 185, no. 3 (April 2012): 398-405; Garber, Daniel, "Leibniz on Form and Matter" *Early Science and Medicine* 2, no. 3 (1997): 326-352; MacFarlane, John, "What Does It Mean to Say that Logic is Formal?," PhD. diss., (University of Pittsburgh, 2000); Sgarbi, Marco, *Kant and Aristotle: Epistemology, Logic, and Method* (Albany: SUNY Press, 2015). I offer my own lengthy account of how this history influences Kant's understanding of the terms in Chapter 3, §2.

recognized by some of the most important commentators in the early 20th century.

Commenting on Kant's introduction of this duality in the Transcendental Aesthetic,

Kemp Smith writes:

This distinction between form and matter is central in Kant's system [...]. On the side of matter falls the manifold, given, empirical, contingent material of sense; on the side of form fall the unifying, a priori, synthetic relational instruments of sensibility and thought. For Kant these latter are no mere abstractions, capable of being distinguished by the mind; they differ from the matter of experience in nature, function, and origin. Upon this dualistic mode of conceiving the two factors depends the strength as well as the weakness of his position. To its perverting influence most of the unsatisfactory features of his doctrine of space and time can be directly traced. But to it is also due his appreciation of the new Critical problems, with their revolutionary consequences, as developed in the *Analytic*.⁴

Hans Vaihinger was no less appreciative of the significance:

Entsprechend dieser Erklärung spielt denn auch diese Unterscheidung [i.e. between form and matter] bei Kant eine sehr bedeutsame Rolle, nicht bloss hier in der transsc. Aesthetik, sondern auch in der Analytik, sowie besonders in der Methodenlehre; nicht bloss in der Kr. d. R. V., sondern auch in den beiden anderen Kritiken, sowie überhaupt in seiner kritischen Philosophie, was im Einzelnen zu verfolgen eine verdienste Aufgabe wäre.⁵

Scarcely anyone has followed Vaihinger's recommendation to examine the meaningful role of form and matter in Kant's writings.

The most notable example is perhaps Robert Pippin's book, *Kant's Theory of Form: An Essay on the Critique of Pure Reason*.⁶ Despite the title of the work, and

⁴ Kemp Smith, Norman, *A Commentary to Kant's Critique of Pure Reason* (London: MacMillan and Co., 1918), 85.

⁵ Vaihinger, Hans, *Kommentar zu Kants Kritik der Reinen Vernunft*, 2nd ed., vol. 2 (Stuttgart, Berlin, Leipzig: Union Deutsche Verlagsgesellschaft, 1922), 62.

⁶ The other notable exceptions are MacFarlane, John, "What Does It Mean to Say that Logic is Formal?"; Although MacFarlane's work contains much historical insight, it is focused narrowly on the question of the formality of logic and has little to say about "form" outside of this context. I have also consulted Graubner, Hans, *Form und Wesen: Ein Beitrag zur Deutung des Formbegriffs in Kants "Kritik der reinen Vernunft"* (Bonn: Bouvier, 1972). Graubner, however, remains fairly narrowly focused on Kant's appropriation of a medieval phrase *forma dat esse rei* (form gives essence to the thing), and I have not found it of much help in my own research.

although Pippin claims near the beginning that “I have also become convinced that many of the controversies prominent in the secondary literature on Kant often depend on how his transcendental formality is interpreted,”⁷ his interpretation of Kant’s conception of “formality” tends to assimilate it to other conventional understandings of Kant’s theories. For example, near the end of his discussion of the Transcendental Deduction, Pippin writes: “one could say that the clearest way to put Kant’s case for the formality of transcendental knowledge is simply to insist that he means thereby that we have no knowledge of things in themselves.”⁸ However, if Kant’s claim that transcendental knowledge is “formal” amounts simply to the claim that we have no knowledge of things in themselves, then it is hard to see what real significance the term “form” and its cognates have. Most scholars have felt comfortable analyzing Kant’s claim that we have no knowledge of things in themselves without invoking the form-matter dichotomy, and, if Pippin is right, they would seem to be justified in this.

By contrast, one of the main claims of this dissertation is that the terms “form” and “matter” have real significance in Kant’s work. One notable fact about this is that they become *more* prevalent in Kant’s writings starting with the *Critique of Pure Reason* than before it. Prior to the *Inaugural Dissertation* (published in 1770 just before Kant’s “silent decade”) they hardly played any role at all, and the *Inaugural Dissertation* makes a real leap forward by first articulating Kant’s theory of space and time as forms of intuition, which he previously did not describe in these terms. In the *Critique of Pure Reason*, Kant seems to treat “form” and its cognates as equivalent to what is *a priori*. But the two terms do not have quite the same connotation. As Vaihinger remarks, the form-

⁷ Pippin, Robert, *Kant’s Theory of Form: An Essay on the Critique of Pure Reason* (New Haven: Yale University Press, 1982), xi.

⁸ Pippin, *Kant’s Theory of Form*, 186.

matter dichotomy contains an echo of the ancient cosmological dualism of a primordial chaos that must be subdued and set in order by an artisan:

Im Uebrigen ist die Vergleichung des erkenntniss-theoretischen Dualismus mit dem kosmologischen ganz richtig und belehrend; das chaotische Sinnen-material bedarf nach Kant eines ausser und über ihm ligenden ordnenden Princips, durch das es erst zum Kosmos der ‚Erfahrung‘ wird. In ihm selbst kann nach Kant dies Princip nicht liegen; in Bezug auf die Welt hatte Kant in seiner ‚Naturgeschichte des Himmels‘ den Dualismus überwunden; aber in Bezug auf das *Erkennen* blieb er im alten Dualism stecken and verhalf demselben zu einer neuen Blüte.⁹

Although no one would accuse Kant of straightforward mythologizing, the resonances of the old terms do not escape him. It is significant that he defines “form” both in the *Inaugural Dissertation* and the *Critique of Pure Reason* in terms of an “order,” “ordering,” and “coordination” in contradistinction to the matter that is ordered.¹⁰ Hence, there remains a question of why the *a priori* in the sense of “necessity and strict universality” comes to be understood in terms of form-as-order.¹¹

My approach in this dissertation is both a historical one and a critical one. One of my main goals is to strive to understand Kant on his own terms in a way that I think few, if any, others have, i.e. by prioritizing the concepts of form and matter, which are pervasive in his work but scarcely observed by scholars. By considering some of the problems associated with these concepts, I hope to offer a new understanding of Kant’s relation to his ancient and modern predecessors. That is, these concepts betray a kind debt to the ancient and medieval world that is unacknowledged by Kant or most scholars.¹² At the same time, when we consider what kinds of problems the form-matter dichotomy is supposed to *solve* for Kant, his relation to his more immediate contemporaries appears

⁹ Vaihinger, *Kommentar*, vol. 2, 66-67.

¹⁰ See A20/B34 and *Inaugural Dissertation* (2:390).

¹¹ See B3-4 where Kant describes necessity and strict universality as the two criteria of apriority.

¹² My fullest account of this is in Chapter 3, §2.

different as well. In particular, I argue in Chapter Three §4 and §5 that Kant is much closer to some of the empiricists than he acknowledges; and in Chapter Four §4 that the distinction between Kant and Berkeley has to do not with their respective views about the nature of appearances as such, but rather more narrowly with their respective conceptions of space.

On the other hand, the critical side of this dissertation is that I attempt to make an original assessment of Kant's theories, particularly his account of the relation between the *a priori* forms of experience and the *a posteriori* matter received through intuition. In my view, the crux of this question has to do with the problem of *synthetic unity*: how can we represent a manifold of intuition as a unity, and do any such representations legitimate any "necessary and in the strictest sense universal, thus pure *a priori* judgments," as Kant promises in the Introduction to the B edition?¹³ I answer the latter question in the negative. But I believe that it is highly instructive to consider Kant's approach to this problem and why I believe it fails. This was a problem that concerned Kant even in his early writings like the *Physical Monadology* (1755) which sought to reconcile a conception of infinitely divisible space with the existence of monads that enter into the composition of bodies. While in Kant's precritical works, the question is directed towards the physical composition of substances, even after Kant's "Copernican experiment" the question persists in terms of how we can represent a manifold as a unity. In this way, the earlier question about the composition of substances redounds to a question of the composition of representations. Thus Kant writes in the B Deduction: "we can represent

¹³ B4.

nothing as combined in the object without having previously combined it ourselves.”¹⁴

One consistent theme of this dissertation is that “form” is supposed to give an account of unity: the unity of an object, the unity of space and time, the unity of experience, etc.

However, one of my consistent critiques of Kant is that these explanations fall flat. Kant relies on the metaphor of form and matter to do his argumentative work, but is unable to otherwise explain how the manifold of intuition can be united in an *a priori* fashion. In my final chapter, I argue that Kant’s arguments ultimately fail because he is unable to explain how to move from what he calls a “subjective unity of consciousness,” i.e. the contingent fact that I represent two things together, to an “objective unity of consciousness,” i.e. that I represent two things as belonging together in an object regardless of the contingencies of my own consciousness.¹⁵

In framing Kant’s thought, scholars sometimes find it helpful to juxtapose his basic claims to other philosophical views, either from his time or our own. There is much to be gained in such comparisons, but this approach is liable to become quickly entangled in philosophical eristic before it is clear what the theory is supposed to do. So through the course of this dissertation I have tried as much as possible to eschew the various -isms that have been conjured up to characterize Kant’s work. In the mountain of scholarship written about Kant, these terms have become so numerous and variously applied, that I believe that there is a real risk that such terms obscure rather than clarify the nature of his arguments. For similar reasons, I have almost entirely avoided discussing the immediate reception of Kant’s theories among Kant’s contemporaries and successors, eg. Maimon,

¹⁴ B130.

¹⁵ See Chapter Five, §5.

Fichte, Reinhold, Schelling, Hegel.¹⁶ So, instead of trying to situate Kant among any of the competing -isms often used to describe him, let me begin with a different approach by giving an ordinary, largely non-technical description of the kind of experience (*Erfahrung*) that concerns Kant in the *Critique of Pure Reason*:

Through the senses I am presented with a variety of different impressions: colors, sounds, odors, tastes, and textures. My mind orders these impressions such that they are grouped together into discrete objects. I may order a bundle of impressions such as red, warm, silky, and herby, and recognize them as properties belonging to a single object like tomato soup. I furthermore may recognize that objects like these are not entirely unique, but rather amenable to classification, comparison, and generalization, such that I can recognize that this serving of tomato soup is similar in most respects to other servings of tomato soup, and it also has similar properties, though fewer, to a carrot soup, potato soup, or other dishes. I may also recognize that some of the properties of objects may change over time in regular and predictable ways, e.g. my warm tomato soup may gradually approach room temperature, or that if the soup were not contained within a bowl it would spill all over the table. Through careful study, I find that it is even possible to arrive at generalizations that achieve a level of universality and necessity such that I can proclaim about certain things that they must be this way and cannot be otherwise. Finally, I may attempt to extend my generalizations beyond the scope of what I could

¹⁶ For an intellectual history of the first few decades after Kant's *Critique of Pure Reason*, see Beiser, Frederick, *The Fate of Reason: German Philosophy from Fichte* (Cambridge, MA: Harvard University Press, 1987); Beiser, *German Idealism: The Struggle against Subjectivism: 1781-1801* (Cambridge, MA: Harvard University Press, 2002); Beiser, *The Genesis of Neo-Kantianism, 1796-1880* (Oxford: Oxford University Press, 2014); Förster, Eckart, *The Twenty-Five Years of Philosophy: A Systematic Reconstruction*, trans. Brady Bowman (Cambridge, MA: Harvard University Press, 2012).

ever possibly experience and seek (in vain, according to Kant) to achieve knowledge about such things.

The *Critique of Pure Reason* is an attempt to describe how such experience is possible. The *Critique* gives an inventory of the various cognitive capacities involved in experience. Some of these capacities are described more fully and adequately, others less so. But each step in the description above amounts to a new cognitive capacity that requires its own justification. Of course, the most innovative and controversial portions of Kant's account concerns the possibility of universal and necessary knowledge, and the impossibility of cognizing what is beyond the bounds of experience. Kant thus presents the *Critique of Pure Reason* as an attempt to answer the question "what and how much can understanding and reason cognize free of all experience?"¹⁷ The overarching position that Kant developed in the *Critique of Pure Reason*, which he calls transcendental idealism, seeks to answer this question. The theory is an *explanans*. It seeks to make sense of certain facts and observations that Kant takes as largely uncontroversial, and to synthesize these into a coherent picture.

The situation is different today. Some of the facts and theories that Kant took for granted are no longer uncontroversial. Kant's commitment to Euclidean geometry and to Aristotelian logic, in particular, are rightly treated with suspicion.¹⁸ And yet these two bodies of knowledge are the main clues that guide Kant's investigation into *a priori*

¹⁷ A xvii

¹⁸ See Peter Strawson, *The Bounds of Sense*, (London and New York: Routledge, 2019) 12-13 for a *locus classicus* of the criticism of these and other basic commitments of Kant's. One notable contrarian view is Ted Humphrey, who argues that Kant's arguments about geometry are sufficiently indeterminate to be compatible with non-Euclidean geometries (Humphrey, "The Historical and Conceptual Relations between Kant's Metaphysics of Space and Philosophy of Geometry," *Journal of the History of Philosophy* 11, no. 4 (Oct. 1973): 507-509.

judgments.¹⁹ This means that scholarship which seeks to rehabilitate Kant in the present has the unfortunate task of extricating his theory from what he took to be some of its main supports. Hence Anglo-American scholarship, especially in the past fifty years, has tended toward a reconstructive method. That is, it has sought to discard in Kant what is deemed to be untenable and offer new articulations of Kantian-style arguments.²⁰

In this process a subtle but important change has taken place. The theory of transcendental idealism shifts from an *explanans* to an *explanandum*.²¹ Kant's theory is what requires an interpretation and a defense (to borrow the subtitle of one of the most influential monographs on the subject).²² There is perhaps a good reason for this: Kant's writing is notoriously difficult; he expressed many of his basic claims in varying and sometimes inconsistent ways; he arguably changed his mind about some of them. So it is unsurprising that a variety of interpretations of Kant's theory have proliferated as commentators attempt to sort out the true meaning of the theory and assess its viability. The contemporary names of these interpretations are well-known: two-world vs. two aspect; phenomenalist vs. anti-phenomenalist; epistemic vs. metaphysical; identity vs.

¹⁹ B viii-xii.

²⁰ Strawson is perhaps the best and most self-conscious example of this. He explicitly seeks to defend an "austere" Kantianism that is free of the "imaginary subject of transcendental psychology" (Strawson *The Bounds of Sense*, 21). Dieter Henrich also opens his highly influential essay on the Transcendental Deduction with an articulation and defense of the reconstructive method ("Identity and Objectivity," trans. Jeffrey Edwards, in *The Unity of Reason*, ed. Richard L. Velkley (Cambridge, Mass.: Harvard Unity Press, 1994), 123-126. Other notable examples of this method include Wilfrid Sellars, *Science and Metaphysics*, Jonathan Bennett *Kant's Analytic*. Other scholars have adopted something of a dual method of historically or textually oriented interpretation along with argumentative reconstruction including Paul Guyer, *Kant and the Claims of Knowledge*; Robert Hanna, *Kant Science and Human Nature*; Lucy Allais, *Manifest Reality*; Henry Allison, *Kant's Transcendental Idealism*. A similar complaint about the reconstructive trend in (particularly Anglophone) scholarship is made by Wayne Waxman, *Kant and the Empiricists* (Oxford: Oxford University Press, 2005), 16.

²¹ This trend is particularly pronounced in modern scholarship, but I make no claim that the trend is exclusive to it. On the contrary, efforts to understand and interpret Kant's own writings extend back to his own lifetime.

²² Henry Allison, *Kant's Transcendental Idealism*. Lucy Allais, *Manifest Reality* (Oxford: Oxford University Press, 2015) is also particularly characteristic of this trend.

non-identity.²³ It is not necessary to discuss the nuances of these interpretations now. My point is rather that these debates occur in a different philosophical context than Kant's own. Their aims are not exactly his, despite all efforts to get Kant 'right.' These interpretative problems may be inevitable.

Given that this dissertation aims to be both historical and critical in its approach to Kant, it is necessary, then, to ask what a reader can gain from the *Critique of Pure Reason* – or any historical philosophical text – if one's goal is to be more than a doxographer. When I began this project I was unsure whether it would turn out to be a defense or a critique of Kant. All that I knew was that the concepts of form and matter had been under-explored among scholars and that coming to some understanding of them was likely to have an effect on an overall assessment of Kant's work. Over the years that this project has developed, I have come to be more critical of Kant, but no less of an admirer. There is, of course, a long line of such people going back to Kant's own lifetime. In this regard, I have found Bennett's remark illuminating: "Kant has a natural, subliminal sensitivity to philosophical problems, so that even where he argues badly his writing is rich in hints and suggestions which can lead one to insights which Kant himself did not have."²⁴ I therefore see it as my own task to assess Kant's arguments, and to tease out where they succeed and where they fail. My focus is particularly on Kant's use of the concepts of form and matter in his arguments, because, in the mountainous scholarship on Kant, they remain relatively understudied. What they hint and suggest has not been fully unraveled.

²³ The various interpretations are helpfully summarized in Nick Stang "Kant's Transcendental Idealism." *Stanford Encyclopedia of Philosophy*. First published March 4, 2016.
<https://plato.stanford.edu/entries/kant-transcendental-idealism/>

²⁴ Bennett, Jonathan, *Kant's Analytic* (Cambridge: Cambridge University Press, 1966), 4.

Chapter One: The Road to Space as Form of Intuition

One of the main conceptual developments of the *Critique of Pure Reason* is the distinction between the *form* and *matter* of experience. So many of the problems treated in the *Critique* and the solutions that Kant offers to them concern this very distinction. At the most programmatic level, space and time he declares to be the *forms* of intuition. The categories are the *forms* of the understanding. These forms can be distinguished from the ‘matter’ that is given through sensibility, and they determine that matter *a priori* and thus provide the basis for our possessing *a priori* knowledge. But what it means to be a ‘form,’ the ways in which these forms determine the matter, and why Kant identifies such things – space, time, categories – but not others as forms, are questions that have received little scholarly attention. The purpose of this chapter is to examine the point in Kant’s career where the distinction between form and matter becomes especially salient, specifically the publication of the *Inaugural Dissertation* of 1770. This chapter will be broken down into three sections, each focusing on a different text: (1) *Physical Monadology*, (2) *Concerning the ultimate ground of the differentiation of directions in space*, (3) *Inaugural Dissertation*. Reading of these three texts together will show that Kant grappled with the nature of space from at least the 1750s onwards and was particularly concerned with the metaphysical implications of space, e.g. the problem of infinite divisibility, and the question of whether space is a property of things or something independent of them. Kant’s early attempts at resolving these problems can be reckoned as failures for reasons that are internal to those texts. When Kant introduces space as a form of intuition in the *Inaugural Dissertation*, he does so as a novel

conception, and one that will resolve the philosophical problems he faced earlier. In doing so, he also develops a conception of form that resonates beyond concerns about space; firstly, he also considers time to be a form of intuition, and, as we'll see in a later chapter, in the Critique he argues that the understanding has its own forms or 'categories.'

The conception of form that Kant comes to in the *Inaugural Dissertation* is that 'form' (or 'formal principle' or 'principle of form' – Kant makes no distinction between these terms in this text) — consists of a 'coordination' of a particular matter (whether that may be substances or representations). He distinguishes two forms of the phenomenal world: space and time. And he makes the additional claim that these two forms are conditions of things appearing to our senses in general, such that without them nothing would be able to appear to us. This claim is pregnant, but not directly argued for, which is a major fault of the text. Aside from failing to justify this claim, Kant's account of form is plagued by another ambiguity. On the one hand, he describes form as the coordination of *substances*, and, on the other hand, as the coordination of *intuitions*. That is, he has both an ontological and epistemological account of form. But he fails to see these as two different accounts, and treats them as if they were one. It is implicit in his account that a coordination of sensations will yield a coordination of substances, but this claim is not justified in the text.

§1 Monads and the Problem of Infinite Divisibility in Leibniz and Euler

Prior to Kant's *Physical Monadology* (1755), space was not a major focal point of his writings and his remarks about it are largely incidental. In his very first publication, *Thoughts on the True Estimation of Living Forces* (1747), Kant clearly adheres to a

Leibnizian view that space must be considered as a property of independently existence substances, and dependent upon them: “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.”¹ But the publication of this work was in this respect, among many others, inopportune.² For, just prior to its publication, there was a flurry of controversy over the nature of space that would make such unreflective acceptance of a Leibnizian conception impossible, and that threatened other pillars of Leibniz’s thought as well. Around 1745, the Royal Prussian Academy of Sciences announced a prize essay question, which was to be awarded in 1747,³ concerning whether Leibniz’s theory of monads could be proven or disproven, and, if proven, whether this theory could explain the motion of bodies.⁴ The

¹ *Thoughts on the True Estimation of Living Forces*, 1:23. Buroker cites this passage as evidence that Kant was firmly committed to a Leibnizian view of space up until 1768 (“The Role of Incongruent Counterparts in Kant’s Transcendental Idealism,” in *The Philosophy of Right and Left: Incongruent Counterparts and the Nature of Space*, edited by James Van Cleve and Robert E. Frederick (Dordrecht & Boston & London: Kluwer, 1991), 319). However, Walford (1999, 307-9) adduces numerous examples from Kant’s works prior to 1768 that conflict with a purely Leibnizian account of space (“The Aims and Method of Kant’s 1768 *Gegenden im Raume* Essay in Light of Euler’s 1748 *Réflexions sur L’Espace*,” *British Journal for the History of Philosophy* 7, no. 2 (1999): 307-9). This leads Walford to claim that Kant instead held a *compatibilist* view of space until 1768. However, to the best of my knowledge, Kant nowhere explicitly argued for such a *compatibilist* view. Instead it is more probable in my view that Kant was somewhat eclectic in this early period and was not entirely aware of the tensions between his various claims about space.

² The main purpose of the *Living Forces* treatise was to resolve the *vis viva* debate. However, there is good reason for thinking that, unbeknownst to Kant, D’Alembert had already provided the solution to the debate in 1743 with his *Traité de Dynamique*. See Schönfeld, Martin, *The Philosophy of the Young Kant: The Precritical Project*. (Oxford: Oxford University Press 2000), 31-35). Kant’s own ‘solution’ to the *vis viva* problem in the *Living Forces* sought to reconcile the Cartesian and Leibnizian viewpoints, but his position is infamously confused and inadequate. See Schönfeld, *The Philosophy of the Young Kant*, 36-55 and Kuehn, Manfred, *Kant: A Biography* (Cambridge: Cambridge University Press, 2001) 86-95.

³ We know that the prize was awarded in 1747 and that the questions were typically announced two years prior to the awarding of the prize. See Harnack, Adolf, *Geschichte der Königlichen Preussischen Akademie der Wissenschaften zu Berlin*, vol. 2 (Berlin: Reichsdruckerei, 1900), 305 n.1.

⁴ Harnack, *Geschichte*, 305: “On demande, qu’en commençant par exposer d’une manière exacte et nette la doctrine des Monades, on examine si d’une côté elles peuvent être solidement réfutées et détruites par des argumens sans réplique; ou si de l’autre on est en état, après avoir prouvé les Monades, d’en déduire une explication intelligible des principaux phénomènes de l’Univers, et en particulier de l’origine du mouvement du corps.”

question was typical of its time. As Beck observes, the Royal Academy was divided among adherents of the Leibnizian-Wolffian philosophy and the Newtonian philosophy; its prize questions tended to concern major flashpoints between the two camps.⁵ Kant took no notice of the prize question in his *Living Forces* (if he was even aware of it), and he wouldn't truly address it until the *Physical Monadology* eight years later, which reads much like a belated response to the prize question.

The view that the *Physical Monadology* seems most of all concerned to combat was the one found in Leonard Euler's *Gedancken von den Elementen der Körper*. Euler (who lost the academy's prize to another anti-Leibnizian, J.H.G. Justi) took a view opposing the monads, and advocated instead for a dualism that maintained a distinction between (1) the elements which make up extended bodies and (2) non-extended 'simple substances,' which he identifies as 'souls and minds' (*Seelen und Geister*).⁶ Leibniz had seemingly maintained that these were one and the same thing. In *Monadology* §1 he defines the monad as "une substance simple, qui entre dans les composés,"⁷ and he argues in §9 and onwards that monads can only be distinguished from one another by their perceptions and appetitions, such that "toutes les substances simples, ou Monades créées pourroient être appelées Ames."⁸ Euler's treatise is divided into two sections: the first gives a neutral exposition of the 'doctrinal system' (*Lehrgebäude*) of the monads; and the second examines and critiques the 'grounds' of this system. The second section may be further subdivided into a few main arguments. First, Euler argues that it is

⁵ Cf. Beck, Lewis White, *Early German Philosophy* (Cambridge, MA: Harvard University Press, 1969), 314-319.

⁶ Euler, Leonard, *Gedancken von den Elementen der Körper*, (Berlin, 1746) §41: "Insonderheit erkennt man jetzt einen unendlichen Unterschied zwischen den Elementen der Körper, und dem Wesen der Seelen und Geister."

⁷ Leibniz, G VI, 607.

⁸ *Ibid.*, 610

contradictory to say that a finite body can be composed of infinitely many parts (§§1-8). Second, he argues that bodies are endowed with a power to remain in a given state (*vis inertia*), while simple substances are endowed with a power to change their state (§§8-38). Next he concludes that bodies and simple substances must belong to different classes of being (§§39-53). And then he shows from their differing natures that bodies cannot be composed of simple substances (§§54-82).

It is the third argument that is most relevant to Kant. In Euler's understanding of the theory of monads, any composite can be broken down into ever smaller parts, until one reaches the smallest part that cannot be broken down any further. These smallest parts are the monads, which are 'infinitely small' such that any physical body will be made up of 'infinitely many' monads. Euler's criticism is that the concept of the infinitely small may have a use in mathematics, but it cannot be applied to the elements of actual bodies: "For, the infinitely small – as that which is smaller than what anyone can imagine – is nothing other than a pure nothing, and the infinitely many is nothing other than the quotient that results when someone divides a number by zero: since such a nothing cannot exist, such simple beings also cannot have any actuality."⁹ To say that monads are infinitely small is to deny them any reality at all. For an infinitely small being is nothing other than a mathematical limit, rather than an actual entity, and as such it cannot enter into the composition of a body. Similarly, as one divides a finite quantity into smaller and smaller parts, the number of parts will increase. But in order to have infinitely many parts, one must divide by zero. So the claim that a physical body is made up of infinitely many monads is simply an indication that the quantity by which one is

⁹ Euler, *Gedancken*, §61 (my own translation).

dividing them is actually zero, i.e. a non-entity. So Euler asserts that all real composition must be made up of a determinate, rather than indeterminate, number of parts.¹⁰

Leibniz's own view is somewhat more complicated, however. For he held that composition itself is something merely ideal or phenomenal, while the monads are what is truly real. Thus as he says in the *Monadology* §65, "chaque portion de la matiere n'est pas seulement divisible à l'infini, comme les anciens ont reconnu, mais encore sous-divisée actuellement sans fin, chaque partie en parties."¹¹ In this respect, Euler's argument begs the question against Leibniz. For Euler assumes that there is actual composition, and then goes on to demonstrate that actual composition cannot result from infinitely small beings. But Leibniz would deny that there is actual composition, and instead claim that it is merely phenomenal.¹² Indeed Leibniz seems to have anticipated an argument like Euler's in *Theodicy* §70 where he writes "on s'embarrasse de même dans les *Séries des Nombres* qui vont à l'infini. On conçoit un dernier terme, un nombre infini, ou infiniment petit; mais tout cela ne sont que des fictions. Tout nombre est fini et assignable, toute ligne l'est de même."¹³ In other words, every composite is actually infinitely divisible, and an infinitesimal part cannot exist. Furthermore, the monads are not supposed to be such infinitesimal parts. They do not have extension, and thus bodies

¹⁰ Euler, *Gedancken*, §3 & §62.

¹¹ Leibniz G VI, 618. See also Leibniz's XXIIth Letter to Arnaud: "aussi les philosophes ont reconnu que c'est la forme qui donne l'être déterminé à la matiere, et ceux qui ne prennent pas garde à cela ne sortiront jamais du labyrinthe de *compositione continui*, s'ils y entrent une fois. Il n'y a que les substances indivisibles et leur differens estats qui soyent absolument reels" (Leibniz, G II 119; cf. *ibid.* 282); and *Primary Truths*: "There is no atom, indeed there is no body so small that it is not actually subdivided" (Leibniz 1989, 33).

¹² Cf. his letter to de Volder: "But since only simple things are true things [*cum res simplices sint verae res*], what remain are only entities by aggregation; to that extent they are phenomena, and, as Democritus puts it, exist by convention and not by nature" (Leibniz, *Philosophical Essays*, edited and Translated by Roger Ariew and Daniel Garber. Indianapolis: Hackett, 1989), 177 [=G II, 252]).

¹³ Leibniz G VI 90.

are not truly “composed” of them as they are of material parts.¹⁴ In this respect, Euler’s objection against Leibniz does not really hold water. For Leibniz does not actually hold the view that monads are the elements of bodies in the sense of being their smallest material parts. By insisting on the difference between the material parts of bodies and unextended simple substance, Euler thus turns out to be much closer to Leibniz than he realizes. In the guise of a criticism, he unwittingly confirms one of Leibniz’s main theses.

Euler argues that we must assume that physical bodies are really infinitely divisible, such that there cannot be any infinitesimal part: “Since one cannot claim without contradiction that the divisibility of matter stops at some point and reaches its limit [...] so one is compelled to admit that bodies may be always divided *ad infinitum*.”¹⁵ Although we think of bodies as composed of parts, we cannot infer from this that there must be simple, indivisible parts from which bodies are composed. Furthermore, the concept of an infinitely small being, which monads were alleged to be, is inherently contradictory. To be ‘infinitely small’ really means to be infinitely divisible, which expresses a mathematical limit rather than an actual being. Euler admits that there are simple beings – souls and minds – but these are not parts of bodies and are “infinitely far removed from the essence of bodies.”¹⁶ To such a claim Leibniz would undoubtedly assent, *pace* Euler.

§2 Space and Infinite Divisibility in Kant’s *Physical Monadology*

¹⁴ Hence Leibniz equivocates in passages like *Monadology* §1 where he speaks of the monads “entering into” composites. In reality, they cannot *enter* into composites as if they were material parts of those composites, because no matter how many non-extended beings one adds together, this will never result in extension.

¹⁵ Euler, *Gedancken*, §69.

¹⁶ *ibid.*, §77.

Given Euler's misunderstanding of Leibniz, Kant's *Physical Monadology* appears somewhat confused in its aim. For it purports to defend the theory of monads against an objection like Euler's.¹⁷ But as we have shown, Euler's argument is not really an objection against the theory of monads properly understood. Kant's confusion notwithstanding, the debate over the theory of monads does not really concern who has the correct interpretation of Leibniz, but rather whose arguments are correct and whose theories are more viable. In this respect, Kant's work is not without ingenuity. For it seeks to explain how non-extended simple substances can be the principle of extended bodies and how the fundamental forces of nature are derived from such simple substances. In doing so, Kant hopes to accomplish a reconciliation between metaphysics and geometry, which he strikingly describes as a task more difficult than "to mate griffins with horses."¹⁸ This framing of the problem has a distinctively Kantian flair insofar as it pits the seemingly equally valid claims of two different sciences against one another and fits with Kant's many pre-critical attempts to formulate a complete system of system of nature that would unite metaphysics and the natural sciences: "Metaphysics, therefore, which many say may be properly absent from physics is, in fact, its only support; it alone provides illumination."¹⁹

The *Physical Monadology* is thus framed around a conflict between geometry and metaphysics: geometry asserts that space is infinitely divisible, while metaphysics

¹⁷ It is unclear whether Kant was familiar with Euler's *Gedanken von den Elementen der Körper* itself or just the general positions in the debate over monads. We know that he was familiar with some of Euler's other works, citing him in *On Fire* (1755) (I:378), but this does not necessarily mean that he knew the *Gedanken*. For further discussion, see Friedman, Michael, *Kant and the Exact Sciences* (Cambridge, MA: Harvard University Press, 1992), 4 n. 6, and Schönfeld, *The Philosophy of the Young Kant*. Kant was also aware, at least by 1763, of Euler's thematically related work *Réflexions sur l'espace et tems*, since Kant refers to it, approvingly, in *Negative Magnitudes* (2:168) and again later in *Directions in Space* (2:378).

¹⁸ 1:475.

¹⁹ 1:475.

(specifically the theory of monads) denies that it is. The conflict is not exactly the same as the one that concerned Euler, who focused solely on the divisibility of *matter* and not on the divisibility of *space*, but Kant treats the two concerns as analogous. If space is infinitely divisible, then presumably the extended bodies that occupy space are infinitely divisible as well. And if bodies are not infinitely divisible, then neither is space. Kant is, however, concerned to separate these two issues. He is, on the one hand, committed to the infinite divisibility of space on geometrical grounds, independent of what metaphysics may assert. On the other hand, he feels that this thesis poses a threat to the notion of a simple substance, just as Euler argued. So Kant's goal is to escape Euler's dilemma by positing that while space is infinitely divisible, the simple substances that occupy it are not. In so doing, he can preserve the integrity of geometry without threatening the monadological metaphysics to which he was then committed.

In Propositions I & II Kant defines a monad as a being “which does not consist of a plurality of parts, any one of which could exist separately from the others” and asserts that “bodies consist of monads.”²⁰ The latter assertion was, of course, rejected by both Leibniz and Euler. To prove it, Kant argues:

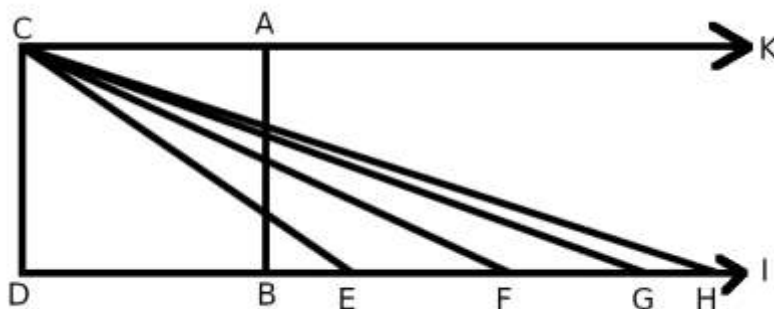
bodies consist of parts, each of which separately has an enduring existence. Since, however, the composition of such parts is nothing but a relation, and hence a determination which is in itself contingent, and which can be denied without abrogating the existence of the things having this relation, it is plain that all composition of a body can be abolished, though all the parts which were formerly combined nonetheless continue to exist. When all composition is abolished, moreover, the parts which are left are not compounded at all, and, consequently, they are simple. All bodies, whatever, therefore, consist of absolutely simple fundamental parts, that is to say, monads.²¹

²⁰ 1:477.

²¹ *ibid.*

Kant thus treats composition as a merely contingent relation between independently existing substances. But this claim is asserted rather than demonstrated, and in asserting it he has begged the question against someone like Euler. If bodies are infinitely divisible, then it wouldn't be possible to abolish composition altogether, as Kant suggests, since there are no ultimate parts into which the body can be resolved. Instead there would always be some layer of composition that remained, and if this were abolished one would only get to another finer layer of composition. Kant acknowledges this position in Proposition IV, but never truly musters an argument against it.

His argument for the infinite divisibility of space, however, fares somewhat better. He illustrates this with a diagram like the following (which is somewhat simplified compared to his):



Assume that the lines CK and DI extend to infinity to the right. Now you can draw lines extending from point C ever further rightwards along DI, such as CE, CF, CG, and CH. Each of these lines will also intersect the line AB. As the lines extending from C go further rightwards, the point of intersection on the line AB will move closer and closer to point A. Since the line DI extends to infinity, the point of intersection on the line AB will also get smaller and smaller without limit, i.e. to infinity. Therefore the space between A and B is infinitely divisible. This example is a geometrical one, but Kant intends for it to

apply to natural space as well: “I have adduced this demonstration, which has already been employed by many physicists, and I have adapted it, as clearly as I could, to physical space, so that those who employ a general distinction between geometrical and natural space, should not escape the force of my argument by means of an exception.”²²

In Proposition IV, Kant tries to bring together his two main claims, namely that bodies consist of simple substances and that space is infinitely divisible. The theorem of Proposition IV states that “a compound which is divisible to infinity does not consist of primitive or simple parts,”²³ but the important conclusion comes in the scholium where Kant tries to show that such an infinitely divisible compound would be absurd. While he acknowledges that space can be infinitely divided, the same is not true of a compound:

in the case of any compound whatever, where composition is nothing but an accident and in which there are substantial subjects of composition, it would be absurd if it admitted infinite division. For if a compound were to admit infinite division, it would follow that all the fundamental parts whatever of a body would be so constituted that, whether they were combined with a thousand or ten thousand, or millions of millions – in a word, no matter how many – they would not constitute particles of matter. This would certainly deprive a compound of all substantiality; it cannot, therefore, apply to bodies of nature.²⁴

Kant’s claim rests on two arguments. First, a compound cannot be composed of infinitesimal parts, since no addition of an infinitely small part will result in a finite extension – a point that both Leibniz and Euler recognized. Secondly, if compounds were composed of infinitesimal parts, this would deprive them of “all substantiality,” which Kant presumes them to have. In other words, the substantiality of compounds derives from the substantiality of their parts; if the parts do not possess substantiality, then neither can the composites. But Kant is not really warranted in saying that it would be

²² 1:478-479.

²³ 1:479.

²⁴ *ibid.*

“absurd” for a compound to lack substantiality. For this is the position of Leibniz, who held that composites do not possess true unity and that monads are, consequently, the only true substances. However unpalatable one may find such a view, it is not sufficient to dismiss it out of hand as absurd. Kant himself even seems to slip into such a phenomenalist view of compounds just a few lines earlier when describes space as “the *appearance* of the external relation of unitary monads (*relationis externa unitarum monadum phänomenon*).”²⁵

In any case, by denying the infinite divisibility of monads Kant is lead to the conclusion that “all bodies therefore consist of a determinate number of simple elements” and that “no one should take monads to be the infinitely small particles of a body.”²⁶ Monads are thus determinate in number and, perhaps even more surprisingly, have a determinate extension. They are not only in space, but also “fill” (*implet*) space: “Since all bodies whatever are compounded of a determinate number of simple elements, whereas the space which it fills admits of infinite division, it follows that each of these elements will occupy a part of space which admits of yet further division; that is to say, a body will fill some specifiable space.”²⁷ Kant was, as we see here, lead to this conclusion by the force of his earlier arguments. His position is, nevertheless, rather idiosyncratic, and one can see why he labeled this work as a ‘physical’ monadology. His monads are truly physical beings: they have extension; they are the parts of which bodies are composed; although they are ‘simple’ beings, this has the sense of physical indivisibility, as opposed to non-corporeality. In order to explain how a monad can be both a simple,

²⁵ *ibid.*

²⁶ *ibid.*

²⁷ 1:480.

partless, indivisible substance, *and* occupy space, Kant claimed that each monad has its own “sphere of activity” which would endow the simple substance with extension. This theory, however, faced serious conceptual difficulties, as Schönfeld has shown, and is, furthermore, outside the scope of this thesis.²⁸

Kant’s idiosyncratic position on the infinite divisibility of space and his theory of monads in the *Physical Monadology* can’t be reckoned as much of a success. Its most important arguments are built upon assumptions that are easily contestable, and that were widely contested in his time. Kant did not really take opposing views far enough into account in order to disprove them and to demonstrate the superiority of his own. What if, as some of Kant’s predecessors argued, composition is not merely a contingent relation of pre-existing substances? What if extended bodies really are infinitely divisible? Answers to these questions are largely precluded by Kant’s definitions and axioms. And without such answers, Kant’s work would not be able to stand up to philosophical challenges.

But if Kant’s claims in the *Physical Monadology* are unsatisfying, the problems with which he was dealing are stimulating. For questions about the relation between space and what fills it, the problem of infinite divisibility, and of infinite series more generally, will all play a role in Kant’s intellectual development leading up to the critical period. It is not so much that the failure of this particular position led him to his critical one. It is rather his eventual realization that we cannot resolve problems of infinite divisibility by rational means at all; that they are in fact dialectical illusions produced by reason. But that development is further in the future.

²⁸ See Schönfeld, *The Philosophy of the Young Kant*, 168-174.

§3 The *Directions in Space* Essay

Kant's next major treatment of space did not occur until 1768, thirteen years after the *Physical Monadology*, with the publication of the short essay *Concerning the ultimate ground of the differentiation of directions in space*. The work testifies to a turning point in Kant's thought on space, for he has abandoned the Leibnizian view and explicitly endorses a theory of absolute space.²⁹ His endorsement of absolute space proved to be short-lived, however. Two years later he published the *Inaugural Dissertation*, where he first articulated the view (retained in the first *Critique*) that space is neither absolute nor relative, but rather a form of intuition. Nevertheless, there are three features of the essay that are deserving of attention. Firstly, Kant's arguments against the Leibnizian position formulated in *Directions in Space* become a mainstay for him. When arguing against the Leibnizian position in his critical writings, one finds him reiterating the argument of the *Directions in Space*, even though he no longer takes them to be evidence for the Newtonian position. Jill Buroker has argued that Kant's argument in the *Directions in Space* essay in fact provides the “strongest justification” of Kant's transcendental idealism, and specifically the claim that space, as the form of outer intuition, is something merely subjective and ideal.³⁰ Secondly, the essay plays an important role in leading Kant

²⁹ Scholars have debated whether Kant's conception of absolute space is a *Newtonian* one, however. Friedman argues that it is not Newtonian, because Kant nowhere says that space is anything like ‘object’ with ‘autonomous reality’ (*Kant and the Exact Sciences*, 29). Walford, however, points out that the debate between Leibnizians and Newtonians played out over several different axes: whether space is (a) mind-dependent or mind-independent, (b) dependent on things existing in space, or independent of them; (c) whether relationism and absolutism are true *metaphysically* or just *methodologically* (“The Aims and Method of Kant's 1768 *Gegenden im Raume* Essay,” 316-318). Kant's position in *Directions in Space* clearly agrees with Newton in respect of (b), i.e. both think that space is independent of the things existing in it. For this reason I'll refer to it as a Newtonian position, although as I'll also argue, he differs from Newton in respect of (c).

³⁰ Buroker, “The Role of Incongruent Counterparts in Kant's Transcendental Idealism,” 317. For a contrary view, see Allison, Henry, *Kant's Transcendental Idealism*, 2nd ed., (New Haven: Yale University Press,

to distinguish between the intellect (or understanding) and sensibility as two distinct sources of cognition – a distinction that will appear just two years later in the *Inaugural Dissertation* and incorporated into his critical views. Lastly, it is noteworthy that Kant is clearly on the verge of formulating his theory of space (and time) as forms of intuition, but does not quite reach that insight in this essay. It is useful, therefore, to compare Kant's conception of space in *Directions in Space* to the *Inaugural Dissertation*.

Kant's basic argument is that direction (*Gegend*) cannot be accounted for in Leibniz's account of space. The notion of directionality appeared in Kant's earlier works, both philosophical and scientific,³¹ but it wasn't until the *Directions in Space* essay that he came to view directionality as a concept of relevance to the debate over the nature of space. Leibniz had held that space is "an order of coexistents" and, in that respect, is something "purely relative" to the things that are so ordered.³² This "order of coexistents" has two aspects: distance and situation.³³ Thus Pittsburgh is approximately 163 miles west of Harrisburg and approximately 163 miles east of Columbus. Harrisburg and Columbus are the same distance away from Pittsburgh, but in different situations. Similarly, Harrisburg and Philadelphia are both in the same situation relative to Pittsburgh (roughly east), but the Philadelphia is an additional 95 miles further away. The relative situations and distances of these cities determines their place in 'space,' which is simply the totality of all of the relative positions of things to one another.³⁴

2004) 470 n. 59. Allison argues that incongruent counterparts only demonstrate that space is an *a priori* intuition, but not its ideality.

³¹ Cf. Walford, "The Aims and Method of Kant's 1768 *Gegenden im Raume* Essay," 314-315.

³² Leibniz, G VII, 363.

³³ *ibid*, 400.

³⁴ Leibniz G VII 400: "ce qui comprend toutes ces places est appelé *Espace*."

Kant's argument in *Directions in Space* is that space exhibits more than these two aspects of situation (which he will call "position" (*Lage*)) and distance. Directionality is a third aspect that is not reducible to these other two, and that in fact requires an absolute frame of reference, i.e. absolute space. Kant thus writes: "In the most abstract sense of the term, direction does not consist in the reference of one thing in space to another – that is really the concept of position [*Lage*] – but in the relation of the system of these positions to the absolute space of the universe. In the case of any extended thing, the position of its parts relative to each other can be adequately known by reference to the thing itself. The direction, however, in which this order of parts is oriented, refers to the space outside the thing."³⁵ Space, Kant says, may be considered as three intersecting planes: the horizontal, the vertical, and the applicate (corresponding respectively to the x, y, and z axis of a Cartesian grid). With these three planes, there are six directions in space: above & below, left & right, front & back. Kant's claim is that "the ground of the complete determination of a corporeal shape does not depend simply on the relation and position of its parts to each other; it also depends on the reference of that physical shape to absolute space, as it is conceived by geometers."³⁶ In other words, it is possible to have geometrical figures that have the same dimensions and angles (i.e. the 'relation and position' of their parts), but which do not coincide because they have different *directions*.

Kant gives several now well-known examples of these 'incongruent counterparts': the thread of a screw, the swirl on a snail's shell, and the left and right hands.³⁷ All of

³⁵ 2:377.

³⁶ 2:381.

³⁷ *ibid.*

these shapes are ‘similar and equal’ (*ähnlich und gleich*) – they have the same size and position – but do not coincide if superimposed on one another. Thus one could be supplied with the following information about a hand whose fingers are maximally spread apart:

	Length of Finger	Angle between the next finger in the sequence
Thumb	2”	40°
Index	2.5”	12.5°
Middle	2.7”	12.5°
Ring	2.5”	15°
Pinky	2.3”	-

With such information, one would be able to know the size and relative positions of the fingers of the hand. But with this information alone it would be impossible to determine the *direction* of the hand, i.e. whether it is a right or left hand, since, *ex hypothesi*, both hands are perfectly alike in their size and shape. We cannot know whether, with the palm of the hand facing you, the thumb is on the left or right side. Hence the direction of the hand is something distinct from the relative positions of the fingers. The directionality of things is, furthermore, ineliminable. For there cannot exist a hand that is not either a left hand or a right hand.³⁸ If the palm of the hand is facing you, its thumb must be either on the left side or the right side. Neutrality is not an option.

This brings Kant to the conclusion that “the determinations of space are not consequences of the positions of the parts of matter relative to each other. On the contrary, the latter are the consequences of the former.”³⁹ If things weren’t determined with respect to their direction, then neither would we be able to determine their actual relative position. Thus in our earlier example, direction is presupposed when we observe

³⁸ 2:383.

³⁹ *ibid.*

relative positions like Harrisburg is 163 miles *east* of Pittsburgh. Without direction we would only be able to say that Harrisburg is 163 miles *away from* Pittsburgh, or that Pittsburgh is *halfway between* Harrisburg and Columbus. Kant sees the fact of directionality as a justification of the doctrine of absolute space because “our considerations, therefore, make it clear that differences, and true differences at that, can be found in the constitution of bodies; these differences relate exclusively to absolute and original space, for it is only in virtue of absolute and original space that the relation of physical things to each other is possible.”⁴⁰

Kant finally draws one last conclusion, this one being epistemic: “absolute space is not an object of outer sensation, it is rather a fundamental concept which first of all makes possible all such outer sensation.”⁴¹ Newton himself acknowledged that absolute space is not an object of outer sensation. At the beginning of the *Principia*, Newton postulated absolute space as the immovable measure of movable spaces. Thus if you wanted to determine the absolute motion of a person who is walking northward on a ship moving eastward, one would have to factor in the person’s motion on the ship, the ship’s motion on the earth, the earth’s motion in the solar system, etc., until one got to the ultimate inertial frame of reference, which would be absolute space. But of course we do not know what this ultimate frame of reference – absolute space – is. So Newton writes in the Scholium to his definitions that

Since these parts of [absolute] space cannot be seen and cannot be distinguished from one another by the senses, we use sensible measures in their stead. For we define all places on the basis of the positions and distances of things from some body that we regard as immovable, and then we reckon all motion with respect to these places, insofar as we conceive of bodies changed in position with respect to

⁴⁰ *ibid.*

⁴¹ *ibid.*

them. Thus, instead of absolute places and motions we use relative ones, which is not inappropriate in ordinary human affairs, although in philosophy abstraction from the senses is required. For it is possible that there is no body truly at rest to which places and motions may be referred.⁴²

While Newton here expresses a certain agnosticism about the reality of absolute space, Kant differs from Newton by turning it into an epistemic foundation, writing that it is ‘a fundamental concept which first of all makes possible all such outer sensation.’ Thus while Kant explicitly endorses a Newtonian conception of absolute space, his argument doesn’t really warrant this conclusion.⁴³ Just because directionality is distinct from relative position, this does not necessarily entail that there is absolute space.

Directionality itself may still be something relative.

That space must be the *ground* or *condition* of our outer sensations necessitates that it be different from these actual things that are sensed, as a condition must be different from what is conditioned. Gloy here finds the origin of Kant’s insight into the *formal* character of space: “Da der absolute Raum als Grund aller wahrnehmbaren materiellen Gegenstände fungiert, ist der Schluß auf seinen nicht materiellen, formalen Charakter nicht nur erlaubt, sondern gefordert.”⁴⁴ This seems to be the real positive insight of the *Directions in Space* essay, and one that Kant will retain and develop further in the *Inaugural Dissertation* and his critical writings. Space is not the order of independently existing substances, as Leibniz had maintained. It is rather the condition of

⁴² Newton, Isaac, *The Principia: Mathematical Principles of Natural Philosophy*, trans. I. Bernard Cohen and Anne Whitman (Berkeley: University of California Press, 1999), 410-411 [=Scholium to Definition 8].

⁴³ I say this in agreement with Gloy, Karen, “Die Kantische Differenz von Begriff und Anschauung und ihre Begründung,” *Kant-Studien* 75, no. 1 (Jan., 1984):12-13: “Obwohl Kant explizit den Schluß auf die *Realität* des absoluten Raumes zieht und sich damit zum Vertreter Newtons macht, finden sich bereits in dieser frühen Schrift Hinweise, daß es ihm letztlich nicht um die Realität als solche, sondern um den absoluten Raum als absolutes Bezugssystem geht.”

⁴⁴ Gloy, “Die Kantische Differenz,” 14. It is unclear, however, whether Gloy herself truly grasped what it means to attribute to space a *formal* character, since she attributes the same thing to Leibniz’s conception slightly later: “Im Unterschied zu Newtons existentem Raum stellt Leibniz’ Raum ein abstraktes, formales System dar” (Gloy, “Die Kantische Differenz,” 18).

such an order. In the *Directions in Space* essay, the only conceptual alternative with which Kant could identify this condition is the Newtonian conception of absolute space. But, as we've shown, this identification is not apt. In the *Inaugural Dissertation* Kant will instead formulate a new ontology of space as something that is neither merely the relations between things, nor an immovable frame of reference, but rather a *form of intuition*.

The groundwork of such a conception of space as a form of intuition is laid in the *Directions in Space*. For, Kant's argument undermines one of the key pillars of Leibnizian thought to which he once subscribed. Leibniz held that there could not be space independent of objects existing in space. For if space is distinct from the beings that occupy it (what Leibniz calls 'abstract space'), then there will be no properties to distinguish one region of space from another. Due to the identity of indiscernibles, this means that those (apparently) different spaces must in fact be one and the same space.⁴⁵ What Kant has argued, however, is that we can and must differentiate regions of space from one another independently of the objects existing in them. It is only a small step from this (although Kant has not yet made it) to say that in cognizing space we must make non-conceptual differentiations between things, insofar as the different regions of space are not distinguished by having different properties. And it is only another small step from this to claim that such non-conceptual differentiations require a separate faculty in the mind, i.e. a faculty of intuition as distinct from a faculty of concepts. Thus, Förster claims that Kant's discovery of incongruent counterparts is what led him to differentiate between concepts and intuitions: "the difference of incongruent counterparts can be

⁴⁵ Leibniz, G VII, 395.

intuited, although it eludes description in conceptual terms. From this it follows that thought and intuition differ from each other not merely by degrees, but must be understood as two fundamentally different sources of knowledge with their own peculiar structures and laws.”⁴⁶ As Zerbudis points out, Kant has of course not yet come to these realizations yet, at least not explicitly; and Kant’s argument for the difference between the intuition and understanding in the *Inaugural Dissertation* does not rely upon the example of incongruent counterparts, although he does reference them.⁴⁷

§4 Form and Matter in the *Inaugural Dissertation*

The *Inaugural Dissertation* was written out of necessity. In March of 1770 Kant was offered the chair of logic and metaphysics at Königsberg University, and tradition dictated that he write and publicly defend a work before assuming his post, which is what this dissertation inaugurates, and whose full title is *Dissertation on the Form and Principles of the Sensible and the Intelligible World*. The defense occurred on August 24th, 1770, seemingly without trouble and Kant retained that professorship for the rest of his life. Given these extrinsic circumstances, it is not wrong to regard the treatise as “really not much more than a hastily composed thesis, written to satisfy the academic requirements for the professorship.”⁴⁸ Yet, as Kuehn also acknowledges, the *Inaugural Dissertation* “presented for the first time important aspects of the critical philosophy.”⁴⁹ Indeed, many arguments from the first *Critique*, such as his arguments for the ideality of

⁴⁶ Förster, Eckart, *The Twenty-Five Years of Philosophy*, 9. See also Gloy, “Die Kantische Differenz,” 30; Guyer, *Kant and the Claims of Knowledge* (Cambridge: Cambridge University Press, 1987) 12.

⁴⁷ Zerbudis Ezequiel, “Incongruent Counterparts and the Origin of Kant’s Distinction between Sensibility and Understanding,” *Archiv für Geschichte der Philosophie* 94 (2012): 326-351.

⁴⁸ Kuehn, *Kant: A Biography*, 189.

⁴⁹ *Ibid.* Interestingly, while Kant did not want most of his pre-critical writings republished, he exempted the *Inaugural Dissertation* from this. See his letter to Tiefrunk on October 13, 1797 (10:208).

space and time, are taken directly from the *Inaugural Dissertation*. It was also Kant's first work published after 1769, the year of Kant's "great light."⁵⁰ After its publication, various people responded to Kant's arguments and he tried to respond to some of the criticisms in turn. Realizing the inadequacy of his position, Kant wrote to Markus Herz in 1772 in a now famous letter that he would solve the residual problems of the *Inaugural Dissertation* in a new work entitled *The Limits of Sensibility and Reason* – a work that would eventually become the *Critique of Pure Reason* nine years later.⁵¹ All of this is to say that the *Inaugural Dissertation*, though brief, hastily written, and eventually recognized by Kant as inadequate, plays an important role in the transition from pre-critical to critical philosophy.

The main purpose of the brief treatise is to explain the concept of 'world' (*mundus*) and how it is possible. 'World' here has a technical meaning. In order for two beings to belong to a world, they have to be regarded as somehow being members of a totality. If they did not, they would not belong to one world, but rather to different worlds. *The world*, if there be such a thing, would be the totality that encompasses all actual beings. Kant presents the concept in the first words of the dissertation: "In the case of a substantial compound, just as analysis does not come to an end until a part is reached

⁵⁰ The phrase "great light" comes from a well known note of his: "If I only achieve as much as being convinced that one must suspend the treatment of a science until this point has been settled, then this text will achieve its purpose. Initially I saw this doctrine as if in a twilight. I tried quite earnestly to prove propositions and their opposite, not in order to establish a sceptical doctrine, but rather because I suspected I could in what an illusion of the understanding was hiding. The year '69 gave me a great light" (R 5037, 18:69). This note, which Adickes dates to the period of 1776-78, has been cited to support a vast swath of differing views. But in my view, it would be a mistake to use this note, because of its vagueness, as a heuristic for interpreting other texts of Kant's, including the *Inaugural Dissertation*. Tonelli's remark seems to us especially methodologically sound: "Die *Dissertatio*, deren philosophische Einstellung große Unterschiede gegenüber Lehren von 1769 aufzeigt, ist demgemäß keine unmittelbare Folge des ‚großen Lichtes‘ vom Jahre 1769; und ihre Problematik kann nicht als Symptom der Ereignisse, welche zur Umwälzung geführt haben, bewertet werden" (Tonelli, Giorgio, "Die Umwälzung von 1769 bei Kant," *Kant-Studien* 54, no. 1-4 (1963): 375).

⁵¹ See 10:129-131.

which is not a whole, that is to say, a *simple*, so likewise synthesis does not come to an end until we reach a whole which is not a part, that is to say, *world*.”⁵² In effect, this definition of world is the counterpart to the concept of a simple substance. Whereas a simple substance will be the endpoint of a process of decomposition, which breaks a compound into its constituent parts, the concept of world is the endpoint of a process of composition, which forms a compound out of already given parts. In the *Inaugural Dissertation* Kant has given these two processes new terms, ‘analysis’ and ‘synthesis,’ which will be familiar to readers of the first *Critique*.

These processes of analysis and synthesis, and the corresponding concepts of ‘simple substance’ and ‘world,’ return us to the problem of infinite divisibility that concerned Kant in the *Physical Monadology*. Kant, though, has developed a new solution to the problem. For, he says that the concepts of a simple substance and the world, the *termini* of analysis and synthesis, have a “two-fold genesis.” He illustrates this through the example of composition:

Thus it is one thing, given the parts, to conceive for oneself [*sibi concipere*] the *composition* of the whole, using an abstract concept of the understanding [*per notionem abstractam intellectus*], and it is another thing to *follow up* [*exsequi*] this general *concept*, as one might do with some problem of reason, by the sensitive faculty of cognition [*per facultatem cognoscendi sensitivam*], that is to say, to represent the same concept to oneself in the concrete by a distinct intuition. The former is done by means of the concept of composition in general, insofar as a number of things are contained under it (in reciprocal relation to each other), and thus by means of ideas of the understanding, which are universal. The latter case rests upon the *conditions* of time, in so far as it is possible by successive addition of part to part to arrive genetically, that is to say, by SYNTHESIS, at the concept of a compound; this case falls under the laws of intuition.⁵³

⁵² 2:387.

⁵³ 2:387.

Hence the concept of ‘world’ as the endpoint of a process of synthesis must be treated differently depending on whether we are talking about it as a representation of the *understanding* or as one of *intuition*. We can clearly conceive that there is an endpoint to the process of synthesis, a totality which encompasses all substances, but in order to produce an intuition of this concept, one must perform this synthesis to its completion, i.e. by adding together every single substance until there are none left, which would result in the representation ‘world.’ Such a synthesis, however, cannot be accomplished: “in the case of a *continuous magnitude*, the *regression* from the whole to the parts, which are able to be given, and in the case of an *infinite magnitude*, the *progression* from the parts to the given whole, have in each case *no limit*. Hence it follows that, in the one case, complete analysis, and, in the other case, complete synthesis, will be impossible.”⁵⁴ Kant thus concludes that we cannot have an intuitive representation either of a simple substance or of a world, although he leaves open the possibility that we can have a conceptual representation, as I discuss below. In contrast to the *Physical Monadology*, he argues that no continuous magnitude can be divided into its ultimate parts, and no addition of finite parts will ever achieve an infinite magnitude. Kant has thus become unburdened from a philosophical commitment to monads, which in the *Physical Monadology* were supposed to ground the substantiality of composites, and which provided a reason for terminating the process of decomposition.⁵⁵ He has realized instead that in principle there is no reason why such a process cannot go on *ad infinitum*.

⁵⁴ 2:388.

⁵⁵ It is unclear when, and for what reasons, Kant abandoned his commitment to a theory of monads. One finds criticisms of the theory in his *Inquiry* of 1764 (2:277) and in the *Dreams of a Spirit Seer* of 1766 (2:321-322). But these criticisms are rather *ad hoc*, and are not integrated into a more comprehensive alternative epistemology and cosmology, which the *Inaugural Dissertation* offers.

By distinguishing between the conceptual and intuitive modes of representation, Kant presents a novel solution to the dilemmas that he encountered earlier with infinite divisibility. According to the older argument, if space were infinitely divisible, then all substances in space must all be infinitely divisible and there could be no monads *qua* infinitesimal parts. In the *Inaugural Dissertation*, Kant's tactic is to argue that while the concepts of 'simple substance' and 'world' cannot be represented *intuitively*, they can be represented *conceptually*. The error of earlier thinkers was to confuse the impossibility of intuitively representing them with their impossibility as such:

From this it is clear how, since *unrepresentable* and *impossible* are commonly treated as having the same meaning, the concepts both of the *continuous* and of the *infinite* are frequently rejected. For, indeed, *according to the laws of intuitive cognition*, any representation of these concepts is absolutely impossible [...]. But that which being an object of pure reason, simply *does not come under* the laws of intuitive cognition, is not in the same position. For this lack of accord between the *sensitive* faculty and the faculty of the *understanding* – the nature of these faculties I shall explain later – points only to the fact that *the abstract ideas which the mind entertains when they have been received from the understanding very often cannot be followed up in the concrete and converted into intuition*.⁵⁶

Just because the faculty of intuition cannot represent concepts like 'simple substance' and 'world' does not mean that these concepts are impossible. It just means that the understanding is unable to 'convert' them into intuitions by carrying out the requisite processes of analysis or synthesis. In this way, the understanding is able to rescue these concepts which the intuition deems to be impossible. Of course, this is a far cry away from Kant's critical position, which will recognize such concepts whose existence is inferred from experience, but which are not to be found in experience, as special kinds of concepts which he deems to be *ideas* and attributes to a separate faculty of *reason*.⁵⁷

⁵⁶ 2:388-389.

⁵⁷ Cf. A311/B367.

Nevertheless, it is through these examples of infinite composition and decomposition that Kant was led to one of the central teachings of the *Critique of Pure Reason*, namely that there is not one but *two* “fundamental sources of the mind.”⁵⁸ Examples such as ‘world’ or ‘simple substance’ clearly show how intuition and understanding may diverge, and thus reveals them as distinct faculties of the mind. Prior to the *Inaugural Dissertation*, Kant was in line with the majority of his contemporaries in subscribing to a one-faculty theory of knowledge, according to which sensuous and intellectual representations differed merely in degree (e.g. of clarity and distinctness) rather than in kind.⁵⁹ But the difference between a conceptual representation of the world and an intuitive one is not one of degree, but rather of completeness, and the two rely upon different conditions. As Kant says, we can only complete the processes of analysis and synthesis “if the respective processes can be carried out in a finite and specifiable period of time.”⁶⁰ This cannot be done because, as Kant has shown, these processes go on *ad infinitum*. But time is no obstacle to obtaining a conceptual representation of ‘world’ or ‘simple substance,’ even though it prevents an intuitive representation of them.

Kant’s distinction between intuition and understanding in this context is extreme. He comes to think of these two faculties as pertaining to two almost entirely separate worlds: a phenomenal and a noumenal world.⁶¹ Negatively what this means is that no matter how thoroughly we know phenomena, it will never bring us closer to noumena.⁶²

⁵⁸ A50/B74.

⁵⁹ Cf. 2:394-395. See also Falkenstein, Lorne, *Kant’s Intuitionism: A Commentary on the Transcendental Aesthetic* (Toronto: University of Toronto Press, 1995), 29-35.

⁶⁰ 2:398.

⁶¹ The only connection Kant admits between the two is that the intelligible world is the cause of things existing in the sensible world, and therefore “inwardly present” in the sensible world (2:409-410).

⁶² “[E]mpirical concepts do not, in virtue of being raised to greater universality, become intellectual in the real sense, nor do they pass beyond the species of sensitive cognition; no matter how high they are ascend

But positively, it means that “there is a science of sensory things”⁶³ in the sense that the sensible world has its own distinct principles that render it comprehensible independent of the non-sensible or noumenal principles. As it turns out, space and time are these two principles of the sensible world. But before considering these, we need to consider Kant’s definitions of form and matter.

Section two of the Inaugural Dissertation offers three definitions of the “the factors which require attention” in the definition of a world.⁶⁴ Only the first two are relevant for our purposes: matter and form. He defines matter as follows: “MATTER (in the transcendental sense), that is, the parts [of a world], which are here taken to be substances.”⁶⁵ By defining matter as ‘substance,’ Kant excludes accidents and modes from counting as parts of the world: “for no one assigns *accidents* to a *world* as its parts, but only to its *state* as *determinations*.”⁶⁶ In this way Kant takes substances – here conceived as the bearers of accidents and modes – to be the basic components of the totality, ‘world.’

by abstracting, they always remain sensitive” (2:394). This claim is echoed in the Critique of Pure Reason (A44/B61).

⁶³ 2:398.

⁶⁴ 2:390.

⁶⁵ *ibid.* Kant’s specification of matter here as ‘in the transcendental sense’ is rather peculiar. For discussion of this phrase, see Sgarbi, Marco, *Kant and Aristotle*, 101 and Cohen, Hermann, *Die systematische Begriffe in Kants vorkritischen Schriften nach ihrem Verhältniss zum kritischen Idealismus* (Berlin: Ferd Dümmlers Verlagsbuchhandlung, 1873), 48. Both agree that here Kant is distinguishing what he’s defining (matter as substance) from the logical conception of matter. For more on this distinction, see *infra* Chapter Three, §2 and the Appendix.

⁶⁶ 2:390.

Kant then defines form as follows: “FORM, which consists in the *coordination*, not in the *subordination* of substances.”⁶⁷ Why is form the coordination rather than subordination of substances? Because:

coordinates are related to one another as complements to a whole, while subordinates are related to one another as caused and cause, or, generally, as principle and that which is governed by a principle. The former relationship is reciprocal and homonymous, so that any correlate is related to the other as both determining it and being determined by it. The latter relationship is heteronymous, for on the one side it is a relation of dependence only, and on the other it is a relation of causality.⁶⁸

In other words, a part-whole relation is a relation of coordinates rather than subordinates. If we think of the world as a kind of ‘whole,’ then we need to explain how these parts – i.e. the matter or substances – can be coordinated, i.e. what their form is. Kant insists that this coordination cannot be something arbitrarily contrived by the mind. The reason why we’re entitled to say that all substances make a world is that they have the possibility to influence and determine one another. Thus Kant writes:

by taking several things together, you achieve without difficulty a *whole of representation*, but you do not, in virtue of that, arrive at the *representation of a whole*. Accordingly, if there happen to be certain wholes consisting of substances, and if the wholes were not bound to one another by any connection, the bringing of these wholes together, a process by means of which the mind forces the multiplicity into an ideal unity, would signify nothing more than a plurality of worlds held together in a single thought. But the connection, which constitutes the essential form of a world, is seen as the principle of the *possible influences* of the substances which constitute the world.⁶⁹

Thus in order for various things to belong to a single world, there must be a *real* connection between those things, where ‘real’ means being involved in a relationship of reciprocal influence or interaction. If there were something that could influence other

⁶⁷ *ibid.*

⁶⁸ *ibid.*

⁶⁹ 2:390.

substances but not be influenced by them, then it wouldn't truly belong to the world. It would rather be an extra-mundane influence upon the world.⁷⁰ Secondly, if one arbitrarily adds several things together, this does not justify counting them as belonging to the same world; their connection would only be *ideal*, i.e. only in our heads. Kant's main target here is the Leibnizian theory of pre-established harmony: if substances are merely *represented as* interacting, then they do not truly make up a world. They have to actually interact.⁷¹ Thus, form is the coordination of substances, and if this coordination is to be real (as we suppose it to be), then it has to entail the mutual interaction of substances.

But Kant's ensuing account of the form of the world doesn't truly meet this standard. His strategy is to argue that there are certain forms of intuition (space and time) by which we coordinate the things that we sense. But this only amounts to an account of how we coordinate our representations (or what Kant above called a 'whole of representation'), and not an account of how substances themselves are coordinated through mutual interaction (what he above called 'a representation of a whole'). In the following paragraphs we'll examine how Kant develops his account of the subjective forms of intuition, and how they fall short of his stated goal.

In sections §§3-5 Kant gives an epistemological account of form and matter. These concepts do not describe how the world is constituted, but rather how a *representation* is constituted. Kant writes, "In a representation of sense there is, first of all, something which you might call the matter, namely, the *sensation*, and there is also

⁷⁰ This seems to be the way that Kant thinks the intelligible world relates to the sensible, i.e. a cause to what is caused (cf. 2:408).

⁷¹ Kant is laying the grounds for the theory of physical influx that he introduces later (2:409). Cf. Leibniz, *Monadology* §7, 81. Kant argued against the theory of pre-established harmony as far back as his New Elucidation (1:411). See also the helpful discussion of this and similar passages in Friedman, *Kant and the Exact Sciences*, 3-7.

something which may be called the *form*, the *aspect* namely of sensible things which arises according as the various things which affect the senses are coordinated by a certain natural law of the mind.”⁷² Here Kant shifts his initial definition of ‘matter’ from an ontological one, i.e. the substances which make up the parts of the whole world, to an epistemological one: matter is the sensation (*sensatio*) within a representation of sense (*repraesentatio sensus*). His definition of form has shifted slightly as well. When he earlier he defined form as the ‘coordination’ of the matter, it was ambiguous whether this coordination should be taken as our *process* of coordinating, or the *product* that arises from such a process. Here he makes clear that it is a product: form is the ‘aspect’ (*species*) that ‘arises’ (*prodit*) from the coordination of various things ‘by a certain natural law of the mind’ (*naturali quadam animi lege*).

This epistemological account of the concepts is developed in his further explication which shows the separate roles of form and matter in our cognition of a sensible object:

Moreover, just as the sensation which constitutes the *matter* of a sensible representation is, indeed, evidence for the presence of something sensible, though in respect of its quality it is dependent upon the nature of the subject insofar as the latter is capable of modification by the object in question, so also the *form* of the same representation is undoubtedly evidence of a certain reference or relation [*respectum aut relationem*] in what is sensed, though properly speaking it is not an outline or any kind of schema [*adumbratio aut schema*] of the object, but only a certain law, which is inherent in the mind and by means of which it coordinates for itself that which is sensed from the presence of the object. For objects do not strike us in virtue of their form or aspect. Accordingly if the various factors in an object which affect the sense are to coalesce into some representational whole [*in totum aliquod repraesentationis*], there is needed an internal principle in the mind, in virtue of which those various factors may be clothed with a certain *aspect*, in accordance with stable and innate laws.⁷³

⁷² 2:392.

⁷³ 2:393.

We see here already that characteristic feature of Kant's critical philosophy that Longuenesse has dubbed the "internalization within representation,"⁷⁴ — an idealistic turn that Kant will develop further in the *Critique of Pure Reason*.⁷⁵ He claims that matter is equivalent to sensation, which in turn is merely the modification of a subject. Sensation is supposed to indicate the presence of an object (presumably because we suppose that something *caused* that modification), but all that we know is the modification itself.⁷⁶ Similarly, we experience the modifications in a certain (spatio-temporal) order, which is typically supposed to belong to the objects sensed. But this order is really just a law that is 'inherent in the mind' (*insita mentis*) by which the mind orders its sensations. These two moments — matter and form; content and order — are the exhaustive conditions of our cognition of sensible things. Although they are both 'evidence' (*arguit, testatur*) for something outside the subject, they are not a direct awareness of it.

Although Kant claims in the passage above that "objects do not strike us in virtue of their form or aspect," this does not mean that the role of form is secondary. As he goes on to claim, these forms of representations are actually conditions of representations: "all our intuition is bound to a certain principle of form, and it is only under this that anything can be apprehended by the mind immediately or as singular, and not merely conceived discursively. But this formal principle of our intuition (space and time) is the condition

⁷⁴ Longuenesse, Béatrice, *Kant and the Capacity to Judge: Sensibility and Discursivity in the Transcendental Analytic of the Critique of Pure Reason* (Princeton, Princeton University Press, 1998), 36.

⁷⁵ I discuss the vexed question of Kant's idealism at length in Chapter Four.

⁷⁶ Paul Guyer sees this a "fundamental, and perhaps fatal" flaw in the *Inaugural Dissertation*, since "it seems to be built into Kant's very idea of a passive rather than active mode of representation that its content is necessarily reflective of the constitution of the patient rather than the agent, of the cognitive subject, rather than the object" (*Kant and the Claims of Knowledge*, 14-15). For Guyer such a conception of sensation undermines the basis for making objectively valid judgments, although Guyer thinks that Kant developed a more suitable conception of sensation in the *Critique of Pure Reason*. I will discuss Guyer's views on this issue at greater length in the next chapter.

under which something can be the object of our senses.”⁷⁷ So it is the “form or aspect” of the objects that make them objects. Kant does not explain, however, how the form makes it so that “anything can be apprehended by the mind immediately or as singular, and not merely conceived discursively.” It seems to follow for him simply from the fact that he reserves discursive or general representations for the understanding, which leaves sensibility as the only other faculty which must, therefore, be responsible for singular representations. But this claim is particularly implausible given that Kant has already defined form as the coordination of matter. How, then, does the coordination of several different things (substances or representations) enable the representation of singular things? To this question, Kant gives no answer in the *Inaugural Dissertation*.

Kant glides over this problem. He takes it for granted that the forms of intuition are the conditions for intuited objects. From this he draws the conclusion that the principle of the phenomenal world must be subjective: “the world, in so far as it is regarded as phenomenon, that is to say, the world in relation to the sensibility of the human mind, does not recognize any other principle than a subjective one, that is to say, a fixed law of the mind, in virtue of which it is necessary that all the things which can be objects of the senses (through the qualities of those objects) are seen as necessarily belonging to the same whole.”⁷⁸ Kant here confuses two separate claims. One is the notion that the sensible world naturally refers to and is in some way conditioned by our senses — precisely because we have qualified the world as the “sensible” one. The other claim is the unjustified notion that the sensible world cannot have *any other conditions*

⁷⁷ 2:397. Kant makes an almost identical claim about space in particular at 2:404: “things cannot appear to the senses under any aspect at all except by the mediation of the power of the mind which coordinates all sensations according to a law which is stable and which is inherent in the mind.”

⁷⁸ 2:398, italics added.

than our subjective, sensible ones. Just because our senses condition what we sense, this does not mean that what we sense has no “other principle than a subjective one.” This second claim completely collapses Kant’s earlier distinction between a ‘real’ and ‘ideal’ whole: it leads to the conclusion that the subjective coordination of things is identical to the objective coordination of things. In this way, Kant undermines the possibility that we can represent the order of things as otherwise than it really is, since this order is determined by “a fixed law of the mind.”

Thus Kant in his explication of space and time is content to show that space and time are simply the ways in which we coordinate our sensations, since he takes this as equivalent to the way that sensible objects are coordinated:

Time is not something objective and real [...]. Time is rather the subjective condition which is necessary, in virtue of the nature of the human mind, for the coordinating of all sensible things in accordance with a fixed law [...]. For it is only through the concept of time that we coordinate both substances and accidents, according to both simultaneity and succession.⁷⁹

Space is not something objective and real [...]; it is, rather, subjective and ideal; it issues from the nature of the mind in accordance with a stable law as a scheme, so to speak, for coordinating everything which is sensed externally.⁸⁰

In both examples, as elsewhere, Kant appeals to a law of the mind, as if to ensure that this coordinating of sensations is not merely subjective or arbitrary. But he does not actually give an account of how this law of the mind operates, i.e. how we determine particular spatio-temporal relations from the general principles of space and time. This is one of the major failings of the *Inaugural Dissertation*, and it is a problem that, as I shall go on to argue in this dissertation, he never fully escapes.⁸¹

⁷⁹ 2:400.

⁸⁰ 2:403.

⁸¹ See *infra*, Chapter Two §5; Chapter Five, §5; Appendix.

There is, however, a significant point that Kant makes in all this. If space and time were simply the spatio-temporal order, they would arguably be no different than the Leibnizian view that space is “un ordre des Coexistences, comme le temps est un ordre des successions.”⁸² Kant, however, makes a subtle but important distinction that separates him from Leibniz. Space and time are not the *order* of coexistents or of successions respectively. They are the *principles* of such order, which make order possible. Regarding time, Kant thus writes that, “it is only *through the concept of time* that we coordinate both substances and accidents, according to both simultaneity and succession. And, thus, the concept of time, as the principle of form [*tanquam principium formae*], is prior to the concepts of substances and accidents.”⁸³ Time is thus not a relation, not an order, nor much less a substance or accident. It is rather the *principle* of order.⁸⁴ It is through space and time that we order sensible things, but space and time are not themselves the order of sensible things. It is thus possible to distinguish three different tiers in Kant’s conception of the sensible world:

	Ontological Account	Epistemological Account
Matter	Substances	What is ordered
Informed Matter ⁸⁵	Spatio-temporal order	The order of what is ordered
Form	Space & Time	That in which things are ordered and what makes the order possible.

⁸² Leibniz, G VII, 363.

⁸³ 2:400, italics added. For the parallel passage about space, see 2:404-405.

⁸⁴ See also R4673 (1773-75): “The order of things that are next to one another is not space, rather space is that which makes such an order or better coordination in accordance with determinate conditions possible” (17:639).

⁸⁵ Kant does not use this term himself; I introduce it as a natural term for the combination of form and matter.

In this way, Kant's conception of space and time fulfill a similar role as Newton's conceptions of absolute time and absolute space. Those were meant to provide the ultimate frame of reference by which all relative times and spaces could be ordered. Newton's theory made a distinction, as Leibniz's did not, between the relative positions of bodies (the spatio-temporal order in the chart above) and the ultimate frame of reference by which the positions of these bodies could be determined. Kant, though, does not want to commit himself to a theory of an absolute space or time, although he doesn't muster an explicit argument against it in the *Inaugural Dissertation*. Instead he gives the spatio-temporal order a distinctively subjective or epistemological valence that is utterly foreign to Newton. In doing so finds a middle path between the two major competing theories of his day.

But this middle path is not without problems. Kant is at once confident that there is an objective, non-relative spatio-temporal order, while the principles (space and time themselves) remain subjective. Thus while Kant had insisted earlier that the form of the sensible world, *qua* the coordination of substances, is something objective and real, he makes it clear that space and time, *qua* the principles of this form, are subjective and ideal. The epistemological account of form and the ontological account are not fully reconciled in this account. There are thus two closely related problems with Kant's account of space and time in the *Inaugural Dissertation*: (1) how can a subjective form give rise to an objective order, and (2) how do we determine particular spatio-temporal relations from the general forms of space and time? These problems he will famously revisit in the first *Critique*, most notably in the Transcendental Deduction where he tries to explain how we can move from a subjective unity of consciousness to an objective

one.⁸⁶ Although I shall argue that Kant's answers to these problems are ultimately inadequate, the steps that he takes towards answering them are profound. These difficulties we shall take up in the subsequent chapters.

§5 Conclusion

In examining the Kant's conceptions of space (and eventually time as well) in his pre-critical writings, we do not see so much a clear, straightforward development but rather several different attempts, issuing from several different philosophical standpoints, to resolve problems that bring him closer to the position that we recognize as his critical one. In the *Physical Monadology* his main concern was to reconcile the geometrical doctrine of the infinite divisibility of space with the metaphysical doctrine that bodies are composed of simple substances or 'monads.' However, Kant's commitment to an indivisible, yet extended substance failed to reckon with the problem of infinite divisibility as Euler and Leibniz had understood it. Hence this commitment was never truly justified in the face of potential objections, and could not amount to more than an uncritical prejudice.

By 1768 Kant had abandoned his commitment to a Leibnizian conception of space, and explicitly endorsed the Newtonian one. The *Directions in Space* essay argues that directionality is both an ineliminable feature of spatial phenomena and yet it cannot be accounted for in a strictly Leibnizian view, which holds that space is merely the relation of coexistents. But Kant's endorsement of a Newtonian conception of absolute

⁸⁶ I discuss this in Chapter Five §5.

space also appeared unwarranted, and in fact seemed to ignore Newton's own agnosticism about our epistemological access to such absolutes.

The *Inaugural Dissertation* recapitulates the insights of these two earlier essays and puts forth a novel concept of space and time, expressed in the language of form and matter. Kant comes to realize that while we may have a concept of 'world' or 'simple substance,' these concepts cannot be intuitively represented because we cannot in fact carry through the processes of synthesis and analysis that would allow us to give them a determinate representation. Space and time cannot simply be the order of existing things, as Kant had realized in *Directions in Space*, but rather must be the principles which make such an order possible. These, however, are not the Newtonian conception of absolute space and time, but are rather interpreted epistemologically as the principles by which we, as subjects, are able to order our sensations. In the aftermath of the *Inaugural Dissertation*, Kant realizes that there is an unanswered problem about how such subjective principles can obtain objective validity, which will set him on the path of writing the *Critique of Pure Reason*.

Chapter Two: The Transcendental Aesthetic (and its Insufficiency)

§1 Preamble to the *Critique of Pure Reason*

This chapter undertakes an analysis of the Transcendental Aesthetic, particularly Kant's arguments about space, in the *Critique of Pure Reason*. But before diving into this analysis, it is worthwhile to make some general remarks on the work as a whole. It is commonly, and not incorrectly, framed as a response to the problems of empiricism, particularly the skepticism of David Hume who, in Kant's famous phrase, "interrupted my dogmatic slumber and gave a completely different direction to my researches in the field of speculative philosophy."¹ One of the guiding questions of the first *Critique* is what the understanding and reason can discover that is "free of all experience" (*frei von aller Erfahrung*).² This phrase is, however, ambiguous. As is well known, Kant argues in the Transcendental Deduction that "no *a priori* cognition is possible for us except solely of objects of possible experience,"³ and a major impetus of the *Critique* is to deny the possibility of non-empirical or extramundane knowledge. In one sense, therefore, there cannot be any cognition "free of all experience" insofar as all cognition must ultimately be of objects of possible experience. The apparent contradiction is, however, quite superficial. For, as Kant tries to argue in the most difficult but crucial passages of the

¹ *Prolegomena*, 4:260. My own somewhat atypical interpretation of Kant's relationship to Hume and other empiricists is developed more fully in Chapter Three, §4b & §5.

² A xvii. The ambiguity in Kant's concept of experience that I go on to discuss was influentially discussed in Beck, Lewis White, "Did the Sage of Königsberg Have No Dreams?" in *Essays on Kant and Hume* (New Haven and London: Yale University Press, 1978), 40 ff.

³ B166

work, it is possible to have cognition that is not *derived* from experience, and yet still *applicable* to it.⁴ Such cognition is “free from experience” in the former sense, but not in the latter sense. If there were no relation between cognition and experience, then it would not even count as cognition.

The desire to have cognition ‘free from experience’ is quite obviously motivated by the skepticism inherent in the writings of Hume. Kant is fully convinced by the empiricist doctrine that “experience teaches us [...] that something is constituted thus and so, but not that it cannot be otherwise.”⁵ This entails that no knowledge that *derives* from experience (although not necessarily all knowledge that *applies to* experience) can rise to the level of necessity or universality.⁶ Nor can we have any certainty about such matters. Hume admitted that mathematics may contain some universal and necessary knowledge (or, in more Humean terms, knowledge that is “intuitively or demonstratively certain”) because mathematics deals with mere “relations of ideas,” which are independent of the vagaries of experience. Hume thus writes of mathematics that: “propositions of this kind are discoverable by the mere operation of thought, without dependence on what is any where existent in the universe. Though there never were a circle or triangle in nature, the truths, demonstrated by Euclid, would for ever retain their certainty and evidence.”⁷ For Hume, the contrast between relations of ideas (i.e. mathematics) and matter of fact is precisely that it is not *contradictory* for a matter of fact to be otherwise, while the same is

⁴ Hence Kant’s well-known remark in the Introduction to the second edition: “There can be no doubt that all our knowledge begins with experience [...]. But though all our knowledge begins with experience, it does not follow that it all arises out of experience” (B1).

⁵ B3. See also A91-92/B123-24 where Kant makes a similar claim.

⁶ Kant takes necessity and universality to be the two criteria of apriority (B4).

⁷ Hume, David, *An Inquiry Concerning Human Understanding* (Indianapolis: Hackett 1993), 15 (§4, Part I).

not true of relations of ideas. The certainty of mathematics for Hume rests on what, in Kantian terms, would be called its analyticity.

Kant's bold innovation in the *Critique* is to argue that we can have knowledge that is necessary, and yet synthetic. This involves not only a reconsideration of mathematical knowledge; Kant also has to distinguish between cognition that *derives* from experience, on the one hand, and cognition that does *not derive* from experience, but still *applies to it*, on the other hand. This distinction, as we shall see, hinges upon the distinction between form and matter. From this distinction follows Kant's answers to the problem of universal and necessary knowledge, the possibility of cognition "free from all experience," and indeed the entire project of the *Critique of Pure Reason*.

But the Aesthetic does not actually succeed in this, as I shall argue in this chapter. What I aim to show is that Kant distinguishes the form and matter of intuition so sharply that he is unable to explain how the *a priori* forms of space and time apply to empirical intuition. That is, Kant is able to show (eventually) that there are *a priori* representations of space and time, but he does not show their empirical applicability. This problem is what I'll refer to as the *insufficiency* of the Transcendental Aesthetic. An early echo of this problem was brought up by Kant in the *Physical Monadology* (1755), which I mentioned in the previous chapter, namely that there is a possible distinction between geometrical and natural space.⁸ In the *Physical Monadology*, Kant deemed it to be unimportant. It becomes more pressing, however, in the first *Critique*. And yet, Kant's doctrine of space as an *a priori* form of intuition, rather than resolving the problem, buries it.

⁸ See *Physical Monadology*, 1:478-479 and *infra* Chapter One, §2.

§2 General Remarks on the Insufficiency of the Transcendental Aesthetic

I claimed above that the guiding question of Kant's *Critique* is "what and how much can the understanding and reason cognize free of all experience"⁹ which is to ask: how much can the understanding and reason cognize that is universal and necessary? With this in mind, the portions of the Aesthetic that Kant in the B edition labels "transcendental expositions" have a special significance, since these are supposed to show how space and time can serve "as a principle from which insight into the possibility of other synthetic a priori cognitions can be gained."¹⁰ This is the upshot of the Aesthetic. The purpose of demonstrating that space and time are *a priori* is that additional *a priori* knowledge can be gained from this insight. If no other *a priori* knowledge were to be gained from it, then the Aesthetic would be a kind of dead-end.

It is important to notice, however, the extreme generality of the conclusions of the Transcendental Aesthetic. Kant aims to show that the *original* representations¹¹ of space and time are *a priori* rather than *a posteriori*; that they are intuitions rather than concepts; and that they are the basis of other *a priori* cognitions, specifically those of geometry, alteration, and motion.¹² Kant tries to establish all these claims on independent grounds in

⁹ A xvii

¹⁰ B40.

¹¹ Kant uses the phrase "original representation of space" at B40, though presumably the same characterization is true of time as well. By limiting his claims to the original representations of space and time, Kant leaves open the possibility that we may also have empirical or conceptual representations of them as well. He speaks of concepts of space at B39: "in respect to it [sc. space] an *a priori* intuition (which is not empirical) grounds all concepts of it." See also B160n.

¹² It is commonly assumed that the transcendental exposition of time is supposed to show the possibility of arithmetic due to Kant's parallel examples of arithmetic and geometry in the Introduction (B15-17). Kitcher (*Kant's Transcendental Psychology*, 116-120) shows convincingly that this is not the case. In the transcendental exposition of time, Kant does not speak of arithmetic but argues rather that time grounds the concepts of alteration and motion (B48). In the *Inaugural Dissertation*, he speaks of time as grounding pure mechanics.

the metaphysical and transcendental expositions of space and time. But as Hatfield remarks, this line of argumentation “provides by itself only very weak *a priori* constraints on the perceptual images that could be formed by imagination [...]. The images that are constructed must accord with the rules of Euclid’s geometry, but *this fact does not imply any specific rules for mapping sensations into perceptual images.*”¹³ Kant’s arguments thus leave an explanatory gap between the *a priori* representations of space and time and the representations of empirical spatio-temporal objects. All that he establishes is that space and time must in some way underlie the representations of empirical objects, though how they do so is left quite indeterminate.¹⁴ Specifically, we get no idea of how particular spatio-temporal determinations arise – at least not within the Aesthetic itself. This problem is what I shall call the *insufficiency of the transcendental aesthetic* to indicate that the problems I address are not fatal to Kant’s project, but rather require resources that Kant develops later in the *Critique*.

The insufficiency of the transcendental aesthetic is rooted in, and exacerbated by Kant’s strict dichotomization of form and matter. Kant introduces these concepts at the beginning of the Aesthetic as a means of distinguishing the *a priori* and *a posteriori* components of an appearance. Given the importance of this passage, I shall quote it in full:

¹³ Hatfield, Gary, *The Natural and the Normative: Theories of Spatial Perception from Kant to Helmholtz* (Cambridge, MA: MIT Press, 1990), 103, italics added.

¹⁴ One common model for understanding space and time as forms of intuition is to see them as something like a grid in which objects are ordered. Commenting on Kant’s claim that the form of appearance must “lie ready *a priori*” in the mind (A20/B40), Vaihinger says “Die form wird hier als ein fertiges receptaculum betrachtet, welches die Empfindungen in sich aufnimmt, als ein Gefäß, das bereit liegt zur Aufnahme, noch ehe die Empfindungen selbst da sind” (Vaihinger, *Kommentar*, 80). But this view is susceptible to the objections of guidedness which I examine below.

The effect of an object on the capacity for representation, insofar as we are affected by it, is *sensation*. That intuition which is related to the object through sensation is called *empirical*. The undetermined object of an empirical intuition is called *appearance*.

I call that in the appearance which corresponds to sensation its *matter*, but that which allows the manifold of appearance to be ordered in certain relations, I call the *form* of appearance. Since that within which the sensations can alone be ordered and placed in a certain form cannot itself be in turn sensation, the matter of all appearance is only given to us *a posteriori*, but its form must lie ready for it in the mind *a priori*, and can therefore be considered separately from all sensation.¹⁵

Kant here defines a number of terms in quick succession. Most crucial for our purposes is his differentiation of matter and form. His claim is that there is a distinction between (1) *sensations*, (2) the *order of sensations*, and (3) *that which allows sensations to be ordered*. Sensations include all of the various qualia that we receive by our senses: pleasant, unpleasant, sour, sweet, red, blue, etc.¹⁶ That which allows sensations to be ordered are the forms of intuitions, namely space and time. Kant claims that sensations are *a posteriori* and that what allows sensations to be ordered is *a priori*. We thus have a clear, if preliminary, sense of (1) and (3), matter and form respectively.

But Kant is silent about (2), the order of sensations itself. His account implies that this order is some combination of the form and matter, but how such a combination comes about is entirely unknown. There seem to be competing tendencies at work here. Kant wants to distinguish the form of appearance as sharply as possible from the matter, and he asserts in the passage that form “can be considered separately from all sensation.” This separability ensures that the form really is pure, *a priori*, universal and necessary in contrast to the matter of appearances which is “only given to us *a posteriori*.” Any actual

¹⁵ A20/B34.

¹⁶ See A28-29.

appearance will contain a combination of the two, but how they are combined remains obscure due to Kant's method of isolation. To isolate the form from the appearance may illustrate its apriority. And yet Kant's account of form ought not to just illustrate this, but also contain an account of the role of form in the *genesis* of appearances. Hence Kant's explanation must move not just from appearances to form through a process of isolation, but also *from* form to appearances through an explanation of its combination with matter. This, then, is the great problem of the *Critique* as I see it: to preserve the purity of the form, of the *a priori*, and to explain how that form can combine with matter, the *a posteriori*, to result in a determinate empirical object. Although this is not part of Kant's explicit aims, I suggest that it offers a touchstone for evaluating his work.

The Aesthetic, as I've claimed, is insufficient to accomplish this. It only shows the apriority of space and time.¹⁷ Kant attempts to offer an account of this in various ways throughout the Aesthetic and Analytic, which I will cover in the ensuing chapter. In what follows in this chapter I intend to show how this insufficiency of the Aesthetic plays out within Kant's actual arguments.

§3 The Metaphysical Exposition of Space: First Argument

¹⁷ This claim about the insufficiency of the Aesthetic goes against a common interpretation that holds that the Aesthetic provides a robust account of how we perceive objects, while the Analytic describes how we think about objects. This view is held by Falkenstein who argues that "imaginative or intellectual synthesis is necessary for us to generate a (conceptual) representation of a spatiotemporal order" but that Kant's texts "do not rule out the possibility that a spatiotemporal order of representations is originally given in intuition" (*Kant's Intuitionism*, 78). The view that I develop in this and subsequent chapters is that any representation of a spatiotemporal *order* (precisely because it is an order) must be conceptual, and therefore cannot be given originally in intuition. See especially *infra* Chapter 3 §5. Akin to Falkenstein, Allais argues that for Kant intuition can present us with objects, and that the Transcendental Deduction merely has to do with "the conditions for referential thought" (Allais, Lucy, *Manifest Reality: Kant's Idealism and his Realism* (Oxford: Oxford University Press, 2017), 259; see also 168 ff.).

The metaphysical exposition has as its goal to demonstrate that space is an *a priori* representation. The four arguments that Kant gives for this are neatly grouped into two: the first and second arguments aim to show that space is *a priori* rather than *a posteriori*, and the third and fourth arguments aim to show that space is an intuition rather than a concept.¹⁸ I shall largely overlook the third and fourth arguments because they do not contribute very much to Kant's account of the formality of space. Secondly, I am in agreement with a large number of prominent scholars that the latter two arguments are not as convincing,¹⁹ and that Kant actually provides a more cogent argument that space is an intuition in the transcendental exposition than is found in the metaphysical exposition.

Kant's first argument about space is that it "is not an empirical concept which has been derived from outer experiences."²⁰ His argument is essentially that the representation of empirical things in space presuppose a representation of space, such that the representation of space cannot be derived from these relations. If space were an empirical concept, then we would first observe things in certain spatial relationships (next to, in front of, behind, etc.), and abstract the general concept of space from these relationships. But Kant's claim is that space is a precondition for spatial relationships: in order to observe spatial relationships, we must already represent things as in space.

Hence the representation of space cannot be derived from empirical observation; it is not

¹⁸ I follow the numbering of the B edition. There is an additional argument in the A edition which is reworked into the Transcendental Exposition of Space in the B edition.

¹⁹ People who hold this view include Kemp Smith, Norman, *Commentary*, 105-109; Strawson, *The Bounds of Sense*, 55-60; Bennett, *Kant's Analytic*, 64-67; Lorne Falkenstein, *Kant's Intuitionism* (Toronto: University of Toronto Press, 1995), 216-241; Allison, *Kant's Transcendental Idealism*, 108-11; Kitcher, *Kant's Transcendental Psychology* (Oxford: Oxford University Press, 1990), 239 n35.

²⁰ A23/B38.

empirical at all. As Allison had argued, this argument is a kind of *reductio ad absurdum* of the empiricist conception of space.²¹

There is, however, considerable ambiguity in the specific argument, which is contained in a single sentence:

in order that certain sensations be referred to something outside me (that is, to something in another region of space from that in which I find myself), and similarly in order that I may be able to represent them as outside and alongside one another [*außer und neben einander*], and accordingly as not only different but in different places, the representation of space must be presupposed.²²

The difficulty has to do with the interpretation of the phrase ‘outside me’ (*ausser mir*). Is it not simply a tautology to state that a representation of space is necessary to represent something outside me, given that “outside” is essentially a spatial relation? This is what an uncharitable interpretation holds.²³ One way to meet this objection is to argue that ‘outside’ may have a non-spatial meaning in addition to the (more common) spatial one. On this view, ‘outside’ may mean something closer to ‘distinct from,’ and thus Kant’s first argument for the apriority of space would claim that in order to refer my sensations to something ‘distinct from me,’ I must refer them to something in a different region of space than I am. The interpretation of ‘outside’ as ‘distinct from’ is seemingly substantiated at the beginning of the Metaphysical Exposition where Kant writes that “by means of outer sense, a property of our mind, we represent to ourselves objects as outside

²¹ Allison, *Kant’s Transcendental Idealism*, 100-104.

²² A23/B38

²³ This objection goes back at least as far as Has Vaihinger, *Kommentar*, 2:165 ff. Strawson (*The Bounds of Sense*, 51) endorses it. It is also discussed by Guyer (*Kant and the Claims of Knowledge*, 346-347); Falkenstein (*Kant’s Intuitionism* 161-165); Warren, Daniel (“Kant and the Apriority of Space,” *The Philosophical Review* 107, no. 2 (Apr. 1998): 198); Allison (*Kant’s Transcendental Idealism*, 100-102). None of these latter scholars endorse the objection, but they view it as a hurdle facing Kant’s argument.

us, and all without exception in space.”²⁴ As some commentators have argued, it would be superfluous for Kant to specify that we represent ‘objects as outside us, and all without exception in space,’ unless there were a distinction between ‘outside’ and ‘in space.’²⁵ By specifying that we represent objects in both these ways, Kant feels the need to rule out explicitly the possibility that something can be ‘outside us’ and yet not ‘in space.’ In other words, an object being ‘outside us’ does not necessarily imply being ‘in space.’ If this is the case, then Kant’s argument may be trying to establish that representing something ‘outside me’ (i.e. distinct from me) also requires the representation of space.

This attempt to salvage Kant’s argument is not successful, however. It is highly doubtful that the argument for the apriority of space hinges upon the spatial and non-spatial senses of ‘outside.’ For there is no ambiguity that the meaning of ‘outside’ in his first argument should be understood in its spatial sense. This is evident from the parenthetical remark where he specifies that ‘outside’ means “in another region of space from that in which I find myself.”²⁶ Kant’s argument is, therefore, inevitably trivial: to represent something ‘in another region of space from that in which I find myself’ I must presuppose a representation of space. Allison may be correct that this argument works as a critique of the empiricist account of space; for if a representation of space underlies the representation of spatial relations, then we cannot derive the latter from the former.²⁷ But it does nothing to prove Kant’s own claim about the apriority of space.

²⁴ A22/B37.

²⁵ This view is endorsed by Guyer, *Kant and the Claims of Knowledge*, 346-347, and Buroker, *Space and Incongruence* (Dordrecht: D. Reidel, 1981), 76. It also was once endorsed by Allison, in the first edition of *Kant’s Transcendental Idealism*, but he came to see this as an error and revised his view for the second edition. See Allison, *Kant’s Transcendental Idealism*, 100-101 & 466 n. 8.

²⁶ A23/B38. This same point is made by Daniel Warren, “Kant and the Apriority of Space,” 184-185.

²⁷ Allison, *Kant’s Transcendental Idealism*, 101-102.

It is noteworthy that the first argument about space is hypothetical in nature: in order for ‘x’ to occur, ‘y’ must be the case. There are two conditionals that stand for the ‘x’ in this example:

1. “*in order that* certain sensations be referred to something outside me...”
2. “*in order that* I may be able to represent them as outside and alongside one another...”²⁸

Although it may be uncontroversial that we do actually refer our sensations to something outside us, and that we represent sensible objects as outside and alongside one another, Kant makes no argument for the *necessity* of these. That is, he does not argue directly for the claim that we cannot have sensations unless those sensations are in space. This is precisely what one would expect from the claim that “by means of outer sense, a property of our mind, we represent to ourselves objects as outside us, and *all without exception in space*.”²⁹ Instead of arguing that we universally and necessarily represent all sensible objects in space – which would be a significant thing to demonstrate – Kant offers only the trivial argument that in order to represent sensible objects in spatial relations, we must presuppose a representation of space.³⁰ This poses a problem because the *a priori* determinations of space are supposed to be one source for our *a priori* cognition of objects. If, however, the relation between space and sensations is merely hypothetical rather than universal and necessary, then there would be no guarantee that what we know

²⁸ A23/B38, italics added.

²⁹ A22/B37; italics added.

³⁰ The critique that I’m developing here is akin to the one that Stroud makes against transcendental arguments as a whole: “in general, giving an answer to the question ‘What are the necessary conditions of X?’ does not tell one way or the other about the answer to the question ‘Do these conditions obtain?’” (Stroud, Barry, “Transcendental Arguments, *Journal of Philosophy* 65, no. 9 (1968): 254). Stroud argues that for most formulations of a transcendental argument, a skeptic can agree about the necessary conditions of X, but deny that those conditions obtain. A similar criticism of Kant’s argument for the necessity of space is made by Paul Guyer, *Kant and the Claims to Knowledge*, 366-368.

about space and time *a priori* will also be true of sensible objects. Here we see the insufficiency of the Transcendental Aesthetic.

It should not be taken for granted that sensible representations are universally and necessarily spatial. Kant's earlier definitions of the form and matter of appearance suggest the opposite:

I call that in the appearance which corresponds to sensation its *matter*, but that which allows the manifold of appearance to be intuited as ordered in certain relations I call the *form* of appearance. Since that within which the sensations can alone be ordered and placed in a certain form cannot itself be in turn sensation, the matter of all appearance is only given to us *a posteriori*, but its form must all lie ready for it in the mind *a priori*, and can therefore be considered separately from all sensation.³¹

Here Kant argues for the conceptual separability of the form of appearance from its matter. They are “given” to us differently: one *a priori*, one *a posteriori*. They are different even in origin: the form must “lie ready” in the mind, whereas the matter arises ultimately from the mind “being affected by objects.”³² The form must be conceptually distinct from the matter (i.e. from sensation), since the form is what allows the matter to be ordered in a particular way. Space is supposed to be one such ‘form’ of appearances; it is distinct from the objects within it and it can be treated separately from them, i.e. in its ‘pure’ state. Hence, there is no reason to suppose that matter must be informed, or, in the terms of the argument we examined above, there is no reason to suppose that sensations must be spatial. And yet Kant assumes precisely this when he argues from the spatiality of sensations to the apriority of space. However, the mere fact that our sensations seem to be exclusively spatial does not prove that they must be this way.

³¹ A20/B34.

³² A19/B33.

It is a crux of the whole Kantian project that we can separate the form of appearance from its matter and treat it separably. By doing so, we expand the branches of our *a priori* cognition. Sensation only yields non-spatial, *qualia* like tastes and colors.³³ Such sensations, Kant alleges, only have spatial determinations by virtue of the *a priori* representation of space.³⁴ Indeed, this ought to be the case if we follow Kant's first argument in the metaphysical exposition, which argues precisely that it is not possible to represent the spatial determinations of a sensible object unless we presuppose an *a priori* representation of space. Sensible objects cannot have spatial determinations apart from this *a priori* representation. It may be that in experience we always perceive such *qualia* along with their spatial determinations, but these two elements of experience – form and matter – must be logically distinct from one another.

At issue here is an ambivalence between what Paul Guyer has helpfully elucidated as the impositionist and restrictionist standpoints in Kant.³⁵ According to the former view, the mind *imposes* its forms upon an indifferent matter, such that the mind can guarantee that its categories of experience always obtain, or, as Guyer puts it, “the mind is such that it can always ensure that experience is possible.”³⁶ The restrictionist view holds that the kind of experience the mind can have is *restricted* by its own forms, and it can only have experience *if* the matter of experience yields to these, or, in Guyer's words,

³³ See A28/29.

³⁴ Here I follow Vaihinger who speaks of Kant's ‘silent presupposition’ (*stillschweigende Voraussetzung*) “dass eben die Empfindungen selbst als solche raumlos, ortlos sind, dass sie erst durch die Raumvorstellung in räumliche verwandelt, transformiert, werden müssen” (*Kommentar*, vol. 2, 165). See also Pippin, Robert, *Kant's Theory of Form* (New Haven: Yale University Press, 1982), 34 ff. for an illuminating discussion of this presupposition.

³⁵ See Paul Guyer, *Kant and the Claims of Knowledge* (Cambridge: Cambridge University Press, 1987), 53-61. Guyer distinguishes these viewpoints through a consideration of the categories of the understanding. I extend the thrust of Guyer's argument to space and time as well.

³⁶ Guyer, Paul, *Kant and the Claims of Knowledge*, 55.

if the mind “is so constituted that experience will be possible only if the objects of experience, as a matter of fact, conform to the requisite conditions.”³⁷ The two viewpoints constitute a genuine ambiguity, because Kant seems to express each of them at different times, and perhaps does not always recognize the distinction between the two. But they are in fact quite different. The restrictionist view accords to the mind a merely conditional necessity: we can only have experience *if* the objects of experience conform to certain conditions (and there is no guarantee that they will conform; non-conformity is a possibility).³⁸ The impositionist view accords an absolute necessity to the mind: we must experience things in such-and-such a way because the mind imposes its conditions on objects of experience (non-conformity is *not* a possibility).³⁹

In the Transcendental Aesthetic, Kant seemingly argues for an impositionist view in regard to the relation between space and empirical objects. That is, he argues that we *cannot* experience empirical objects unless they are represented in space. But his actual arguments only achieve conditional necessity: “*in order that* certain sensations be referred to something outside me, and similarly *in order that* I may be able to represent them as outside and alongside one another...”⁴⁰ The fact that Kant’s arguments only justify conditional necessity has implications for his theory of geometry and the transcendental exposition of space, as we shall examine further below.

§4 Metaphysical Exposition of Space: Second Argument

³⁷ *ibid.*

³⁸ Allais seemingly holds such a view when she rejects the common interpretation of the purpose of the Deduction, namely to show that “everything given intuition must fall under the categories in order to be presented to us in intuition” (*Manifest Reality*, 174).

³⁹ I return to this ambiguity in Chapter Five §4 & §7, where I try to develop a middle ground between the alternatives.

⁴⁰ A23/B38; italics added.

The second argument in the metaphysical exposition seemingly attempts to address the necessary spatiality of sensations. His conclusion is that space “is therefore to be regarded as the condition of the possibility of appearances, not as a determination dependent on them, and is an *a priori* representation that necessarily grounds outer appearances”⁴¹ If this conclusion is warranted, then it would be possible to say that there cannot be outer appearances which are not spatial. Unfortunately, Kant’s argument for this conclusion is quite inadequate. He argues: “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.”⁴² The intention of Kant’s argument is quite clear: it is possible to think of space without objects, but not of objects without space. Space is therefore an indispensable representation, while the objects within it are dispensable or contingent.

The problem is that my paraphrase above is not the precise argument that Kant makes, and the argument that he does make does not lead to the desired conclusion. Specifically, Kant does not argue that it is impossible to represent objects without space. (This is, in fact, what he wants to conclude, so if this were his argument he would be guilty of begging the question.)⁴³ Kant’s argument is rather that it is impossible to represent that “there is no space,” which is supposed to imply that it is impossible to represent objects without also representing space. But this implication does not hold. To represent “something that is not-x” is not equivalent to representing “not-x.” Thus, to represent non-spatial qualities is not equivalent to representing “that there is no space.” It is entirely possible to do the former (e.g. an odor) without the latter. Thus even granting

⁴¹ A24/B39.

⁴² A24/B39.

⁴³ I argue this contra Allison, who claims that the most charitable reading of Kant’s second argument is that “we cannot represent outer appearances without also representing them as in space” (Allison, *Kant’s Transcendental Idealism*, 105).

that it is impossible to represent that there is no space, this does not entail that all outer appearances are necessarily spatial or that space is a condition of their possibility.

If the above analysis of Kant's account of form and matter is correct, the problems facing his treatment of space become more acute. For if sensible qualia are, by Kant's own account, intrinsically non-spatial, then how can Kant guarantee that the *a priori* representation of space is applicable to them? The two sorts of representations are heterogeneous in their origins, what makes them come together?

§5 The Problem of 'Guidedness'

This problem, which has been noticed occasionally in the scholarly literature, but not often discussed, has been dubbed the problem of 'guidedness.' It was perhaps formulated most sharply by Johann Friedrich Herbart (1776–1841) who posed the simple question: "where do the *particular* shapes of *particular things* come from? Where do the particular time intervals for particular perceptions come from? This question is completely unanswerable from the Kantian standpoint."⁴⁴ Elsewhere he explains the problem at greater length:

The fundamental question [of Kant's system] is not answered by the system. One may see space and time, categories and ideas, as conditions of experience lying in

⁴⁴ "[W]oher nun die bestimmten Gestalten bestimmter Dinge? Woher die bestimmten Zeitdistanzen für bestimmten Wahrnehmungen? Diese Frage ist nach der Kantischen Ansicht schlechterdings unbeantwortlich" (Herbart, J.F. *Psychologie als Wissenschaft* (Königsberg, 1825), 226, https://archive.org/details/bub_gb_EcEAAAAcAAJ). This problem has been picked up again by Sellars, Wilfrid, *Science and Metaphysics: Variations on Kantian Themes* (Atascadero: Ridgeview, [1967] 1992), §39; Pippin, *Kant's Theory of Form*, 46 ff.; Hatfield, *The Natural and the Normative*; Sassen, Brigitte, "Kant's Early Critics and the Question of Empirical Guidedness" in *Kant Und Die Berliner Aufklärung: Akten des IX. Internationalen Kant-Kongresses*, ed. Volker Gerhardt, Rolf-Peter Horstmann, and Ralph Schumacher (Berlin: de Gruyter, 2001: 663-669); Uehling, Theodore Jr., *The Notion of Form in Kant's Critique of Aesthetic Judgment* (The Hague: Mouton, 1971), 81-85. Sassen argues that this problem can be found as early as the Garve-Feder review, though she admits it is only there "implicitly" (Sassen "Kant's Early Critics and the Question of Empirical Guidedness," 664) – an interpretation that I find to be tendentious. More plausible is her discussion of this problem in relation to Pistorius, which I address below.

the mind: that does not explain the determinateness of each individual thing in appearances. The mind holds the one and the same forms ready for each given thing [...]. The error of the solution reveals itself in the fact that the most difficult question is not addressed. How do we perceive the forms, since these perceptions cannot be attested either in or out of the material of the given? That we perceive them is very certain [...], but this doesn't explain why we must here see a round figure, there a quadrangular one, because in the manner and way that the colored thing is given to us, certain conditions are possessed (something that ought to be demonstrated by Kant, but is not).⁴⁵

As Herbart charges, Kant is unable to account for the diversity of particular spatio-temporal perceptions by appealing to space and time and mere *a priori* forms of intuition, for these are constant in all of our perceptions. Furthermore, Kant seems to have ruled out the possibility that the shape of empirical things is determinable on the basis of what is empirically given, since, as we have argued, these consist of non-spatial qualia. Hence there is a dilemma: if space is *a priori*, it plays no role in the perception of determinate empirical spatial relations; on the other hand, if empirical spatial relations are given *a posteriori*, then the basis of Kant's argument for the apriority of space falls apart.

Prior to Herbart, the problem was formulated somewhat differently by Pistorius who, in his review of the second edition of the *Critique* writes:

[W]e would not be able to intuit things in space and time, unless there were properties and relations in them through which our determinate manner of intuition would be made possible. Nor would we be able to prescribe the general laws of nature to them if they were not themselves ordered according to those laws, or at least according to laws that correspond to the laws of our understanding. For otherwise they would either have to be an entirely raw undifferentiated mass that would take every form that one might like to give it, or, if we were to treat them according to the rules of our rational thought, we would very often clash with them and not see eye to eye with them. The first is

⁴⁵ Herbart, J.F., *Lehrbuch zur Einleitung in die Philosophie*, §127. In *Sämmtliche Werke*, vol. 4, ed. Karl Kehrbach (Langensalza: Hermann Beyer und Söhne, 1891), 211, https://archive.org/details/johannfriedrichh04unse_0/.

unthinkable, and the second is contradicted by our constant experience.⁴⁶

Pistorius' argument is somewhat less clear than Herbart's. Pistorius conflates two different accusations against Kant that it would be useful to distinguish. The first, which accords with Herbart, is that if space and time are subjective in origin, they are essentially *extrinsic* to the objects to which they are ascribed. The second is that if space and time are subjective in origin, spatio-temporal properties are essentially *arbitrary*, in the sense that we would be able to change through our volition: these properties 'would take every form that one might like to give it.' Due to this arbitrariness, no laws of nature could exist since the objects of our perception could change on a whim.

There is little ground for Pistorius' second charge. If we suppose that spatio-temporal determinations are extrinsic to sensible objects, this does not entail that we could change them arbitrarily. It does not mean that one could, for example, see a square as a circle through an act of the will. But his first charge is quite serious. Kant does seem to treat sensible qualia as 'an entirely raw undifferentiated mass,' which receives spatio-temporal determinations through some kind of processing of the mind. So there needs to be some explanation for why this mass of undifferentiated impressions is processed as, e.g., a square rather than a circle.

One possible (but inadequate) response to the problem would be to say that the round or quadrangular shape of a figure is attributable to its matter rather than its form. So if one perceives a yellow square, the quadrangular shape of the square would be just another property received by mind alongside its yellowness. But if this is accepted, the whole distinction between form and matter is obliterated. For this proposal would grant

⁴⁶ Sassen, Brigitte, trans. and ed., *Kant's Early Critics* (New York and Cambridge: Cambridge University Press, 2000), 178-179.

that the content of our perceptions is received by the mind as something that is *already ordered*. Needless to say, this would undermine certain pillars of Kantian thought. It would, for instance, no longer be true that “the spontaneity of our thought requires that this manifold first be gone through, taken up, and combined in a certain way in order for a cognition to be made out of it.”⁴⁷ Spontaneity would not play a role, and receptivity would suffice.

In the B Deduction Kant himself attributes the representation of determinate figures to a synthesis, specifically to the figurative synthesis. He writes that “inner sense [...] 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.”⁴⁸ Kant thus denies that inner sense, on its own, contains “any determinate intuition at all.” The determination of intuition comes only through the figurative synthesis, i.e. an act whereby the manifold of intuition is combined. To illustrate this point, Kant notes that the representation of even simple geometrical figures cannot be passively received by the mind, but rather must involve an act of synthesis:

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 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) first cognized.⁴⁹

⁴⁷ A77/B102.

⁴⁸ B154.

⁴⁹ B137-138.

We cannot think of a line without *drawing* it in thought, we cannot think of a circle without *describing* it, we cannot represent the three dimensions of space at all without *placing* three lines perpendicular to each other at the same point, and we cannot even represent time without, in *drawing* a straight line (which is to be the external figurative representation of time), attending merely to the action of the synthesis of the manifold through which we successively determine the inner sense, and thereby attending to the succession of this determination in inner sense.⁵⁰

For we can represent a determinate space to ourselves no otherwise than by drawing it, i.e. by adding one space to the other, and so also with time.⁵¹

The scope of these arguments are extremely broad. According to them, we cannot cognize “something in space” without a synthesis of the understanding, and this is reinforced by the claim that cognizing even something as basic as a line requires that we “synthetically bring about a determinate combination of the given manifold.” Since lines are the foundation of planes and shapes, it is quite clear that cognizing these more complex spatial determinations would also require such a synthesis.⁵² Kant’s point is that spatio-temporal determinations are not akin to simple qualities received through sensation like color, smell, taste, etc. They are unities of multiplicities. To hold these multiplicities together requires an act of synthesis. One has to see that parts of the manifold *belong* together.

How do we know which parts *belong* together? How do we know, e.g., that these parts should be synthesized into a circle rather than a square? This brings us back to Herbart’s problem. Unfortunately, we have to forestall the answer until Chapter Five, where we examine the Transcendental Deduction more closely. But there is, perhaps, a

⁵⁰ B154-155.

⁵¹ *What real progress has metaphysics made in Germany?* (20:271). See also *Prolegomena* §38 (4:320-321).

⁵² My interpretation here aligns with that of Kemp Smith, *Commentary to Kant’s Critique of Pure Reason*, 119-120.

good reason that Kant is so taciturn about the determination of particular spatio-temporal relations within the Transcendental Aesthetic. It is that this problem cannot itself be resolved within the scope of the Aesthetic itself. The Aesthetic begins by isolating sensibility from the understanding, and then abstracts two forms of sensibility – space and time – from their empirical matter. But to explain particular spatio-temporal relations requires discrete matters to be related. As I’ve just argued, this requires a synthesis that by definition cannot be accomplished by mere receptivity and thus necessarily involves the understanding. For any particular empirical object contains a manifold that is synthesized into a unity, making it *one* object instead of *many*. The same is true of the spatio-temporal determinations of an object. When one says, for instance, that a box has the dimensions of 10cm x 15cm x 5cm, these three dimensions – which in no way imply one another – are ascribed to a single object and asserted to be true of it.

Kant seemed to be cognizant of this in the *Duisburg Nachlass*, a series of notes that he made prior to the *Critique* and that have been reliably dated to 1772-1773. In one note Kant writes:

If we place something in space and time, we act; if we place it next to or after another [*neben und nach einander*], we connect [*verknüpfen*]. These actions are only means to bring about each position; but one can take them separately; if we take several at once or posit one action simultaneously with another, this is a kind of action, through which we posit something in accordance with the rule of appearances, where this positing must have its special rules, which are distinct from the condition of the form with regard to which they are to be located in appearance.⁵³

Kant here sees quite clearly that to place an object “next to or after” another involves a connecting of the two objects. For in relations like “next to” or “after” we determine the

⁵³ R4634, 17:619

position of one object relative to another, and these relations are, in Kant's view, in no way analytically deducible from one or the other object by itself. This connection therefore requires 'special rules' that are distinct from the mere form of sensibility, which, as Kant was then working out, turn out to be what he later calls the categories of the understanding, which govern the synthesis of the content received from intuition. Though how the categories are supposed to do this is still quite vague at this point, what is clear is that *the mere forms of space and time are insufficient for the apprehension of particular empirical objects*, or even of their particular spatio-temporal determinations.⁵⁴

But Kant is frustratingly vague about this in the Transcendental Aesthetic. He writes at the opening of the metaphysical exposition of space that "by means of outer sense (a property of our mind) we represent to ourselves objects as outside us, and all as in space. In space their shape, magnitude, and relation to one another is determined, or determinable."⁵⁵ True, in space these relations are *determinable*. But space is not a sufficient condition for making them *determined*. The arguments in the *Duisburg Nachlass* and the B Deduction show that the determination of spatio-temporal relations requires a synthesis that is utterly foreign to the receptivity of sensibility.

My interpretation here thus differs from that of Guyer who asks "why should we think that any rules other than the geometrical and chronometrical rules which would be given by the forms of space themselves should be required? Why are rules of thought,

⁵⁴ My interpretation here accords with that of Longuenesse who argues that the Transcendental Aesthetic must be reread in light of the Transcendental Deduction, since "the manner in which things are given to us, that is, the forms of intuition expounded in the Transcendental Aesthetic" are "the manifestation of an activity [i.e. the *synthesis speciosa*] that only the Transcendental Deduction of the Categories can make explicit" (*Kant and the Capacity to Judge*, 213). However, it is opposed to the views of Falkenstein (*Kant's Intuitionism*, 54-58) and Allais (*Manifest Reality*, esp. chapt. 7, "Concepts and Intuitions"), and Guyer, whom I discuss in greater detail below.

⁵⁵ A22/B37.

distinct from the rules of sensibility imposed directly on all sensation by the forms of intuition themselves, also conditions of the possibility of experience?”⁵⁶ What I argue here and below is that the rules that govern the determination of particular spatio-temporal relations necessarily involve the understanding, since they deal with the synthesis or relation of distinct times and places. Guyer’s implication that we can distinguish one from the other is false from the start.

Guyer anticipates this argument and responds by quoting another *Reflexion* from the same period in which Kant argues that the rules of judgment are also insufficient for the determination of an object because “I will not regard whatever I want in the appearance as either subject or predicate, rather it is determined as subject or *respective* as ground [...]. For otherwise we could use logical functions arbitrarily, without establishing or perceiving that the object is more suited to the one than to the other.”⁵⁷ From this, Guyer concludes that there must be some rules for classifying a particular representation as either a subject or a predicate. These rules must be distinct from the forms of sensibility and from the forms of judgment as R4672, just quoted, shows. They are what Kant calls the ‘titles of thinking’ (*Titel des Denkens*). Unfortunately, however, Kant does not develop this concept at all. It serves more like a placeholder for a solution than an actual solution. By the time of the first *Critique*, he seems to have assimilated these “titles of thinking” to the table of judgments and the categories, which is where he seems to believe the solution to be rather than in a third kind of rule distinct from sensibility and the understanding.⁵⁸

⁵⁶ Guyer, *Kant and the Claims of Knowledge*, 30.

⁵⁷ R4672, 17:635-636

⁵⁸ When introducing the table of judgments he thus writes “we find that the function of thinking [...] can be brought under four titles [vier Titeln], each of which contains under itself three moments” (A70/B95). See

§6 Transcendental Exposition of Space

The transcendental exposition concerns the relation between the *a priori* representation of space and a branch of mathematics, geometry. The importance of this section is twofold. On the one hand, it provides an additional argument that space is an *a priori* representation. Essentially Kant argues that geometry could not be *a priori* unless space is also *a priori*. On the other hand, the examination of geometry also shows that as an *a priori* representation, space also provides the grounds for other *a priori* cognitions. This latter aim, as I've mentioned, is especially significant, since it is what allows for an expansion of our *a priori* cognition and assists in answering the question of what we can know apart from all experience. Since this exposition concerns Kant's theory of geometry, and more broadly, his theory of mathematics, we shall begin with some remarks about that.

Kant's theory of mathematics, such as it is, is commonly disregarded today. But to overlook the Aesthetic and the role of mathematics in it risks undermining the whole purpose of the chapter. Kant's aim is to demonstrate the ideality of space and time, precisely because he believes that it is the only theory which is able to explain the applicability of mathematics to nature.⁵⁹ And mathematics is, for him, a paradigmatic example of synthetic *a priori* cognition. The transcendental exposition of space draws heavily upon Section V of the Introduction, which contains some of the most fundamental arguments in the whole *Critique*. It aims to show that mathematical judgments are firstly synthetic, and secondly *a priori*.

also B111, and Heidemann, Dieter H., "Titel," in *Kant-Lexicon*, 3 vols., ed. Marcus Willaschek, Jürgen Stolzenberg, Georg Mohr, Stefano Bacin (Berlin: Walter de Gruyter, 2015), 2295-2296.

⁵⁹ See also *Prolegomena*, §13, Note 1 (4:287-288).

Kant's argument for the apriority of mathematics is simple: mathematical judgments are *a priori* "because they carry necessity with them, which cannot be derived from experience."⁶⁰ That mathematical judgments are necessary is uncontroversial, and, as Kant has already argued, necessity is an infallible sign of apriority. Below we'll complicate this picture somewhat, once we ask *why* mathematical judgments are considered necessary. But for now we'll accept Kant's claim as it is.

His argument that mathematical judgments are synthetic is more difficult. Kant admits that the synthetic nature of mathematics has gone unnoticed by his predecessors. But his arguments for this claim are rather meager – as if simply pointing it out that the judgments are synthetic is sufficient to prove it. Kant has two separate examples intended to prove that mathematical judgments are synthetic, one that pertains to arithmetic and one that pertains to geometry. The arithmetical example is his famous analysis of the proposition $7 + 5 = 12$. It is the more developed of the two examples so we shall focus on it:

To be sure, one might initially think that the proposition ' $7 + 5 = 12$ ' is a merely analytic proposition that follows from the concept of a sum of seven and five in accordance with the principle of contradiction. Yet if one considers it more closely, one finds that the concept of the sum of 7 and 5 contains nothing more than the unification of both numbers in a single one, through which it is not at all thought what this single number is which comprehends the two of them.⁶¹

Kant's wording is somewhat unusual and deserving of attention. First, he speaks of two 'concepts': 'the concept of the sum of seven and five' and 'the concept of twelve.' The question is whether one can arrive at the latter concept by analyzing the former concept, in the way that, for example, one might arrive at the concept 'page' by analyzing the

⁶⁰ B14. See also *Prolegomena* §6 (4:280) and §11 (4:283-284).

⁶¹ B15.

concept of ‘book.’ Here the concept ‘page’ is quite clearly contained in the concept of ‘book,’ since a book is composed of pages. If a book had no pages, it would not be a book but rather something else. The arithmetical example is, however, quite different from the example of a book. We can know that the sum of seven and five results in a number, but it is not by analysis that we know that this particular sum results in the number twelve. In order to arrive at the number twelve, we need to undertake a *synthesis* or as Kant later prefers to call it, a *construction*: “one must go beyond these concepts, seeking assistance in the intuition that corresponds to one of the two [...], and one after another add the units of the five given in the intuition to the concept of seven.”⁶² Without the activity of *adding* – that is, synthesizing – the units together, it would not be possible to know the result of the sum. In this way, Kant’s example is somewhat presumptuous, because he elsewhere explains that even the concept of *number* is a schema of the understanding that arises from a synthesis: “the pure schema of magnitude (*quantitatis*) [...] is number, which a representation that summarizes the successive addition of one (homogenous) unit to another.”⁶³ Before we can even add 5 and 7 to make 12, we must already know how to count, i.e. be aware of the successive addition of one homogenous unit to another, and thus generate the synthetic representation that is a number.

Kant’s arguments concerning geometry are similar. In the Introduction, he gives the example of the proposition that the shortest line between two points is a straight one. This proposition, he argues, is synthetic because “my concept of *the straight* concerns nothing of quantity, but only a quality. The concept of the shortest is therefore entirely additional to it, and cannot be extracted out of the concept of the straight by any

⁶² B15. On Kant’s term “construction,” see A713/B741 ff., and *On A Discovery* (8:191n).

⁶³ A142/B182.

analysis.”⁶⁴ In other words the concept of “straight” does not contain the property “shortest distance between two lines,” as the concept of “book” (to return to our earlier example) contains the property of “page.” The reason is that two concepts belong to different genera: “straight” is a qualitative concept, while “short” is a quantitative. The only way that we can know that these two concepts belong together is by appealing to intuition where we see that the two concepts necessarily belong together.⁶⁵

Kant’s arguments in the Introduction thus provide compelling reasons to think of mathematics as synthetic and as *a priori*. There is another tacit assumption in Kant’s account, however, which will complicate our analysis below. This is the assumption that mathematical judgments are true in the sense that they are *necessarily* applicable to the empirical world. This is most evident from Introduction II, which is entitled “We are in possession of certain *a priori* cognitions, and even the common understanding is never without them”⁶⁶ and in which Kant writes: “Now it is easy to show that in human cognition there are actually such necessary and in the strictest sense universal, thus pure *a priori* judgments. If one wants an example from the sciences, one need only look at all the propositions of mathematics.”⁶⁷ In calling mathematical judgments ‘cognitions’ (*Erkenntnisse*), Kant commits himself to more than just the necessity and universality of mathematical judgments, he also claims their empirical applicability — though he makes no argument for this. This tacit claim of empirical applicability will have important consequences for the Transcendental Deduction, since this is the section of the Aesthetic

⁶⁴ B16.

⁶⁵ See also A716/B744 ff. where Kant argues that the proposition that the sum of the angles of a triangle cannot be proved through the concept of a triangle itself (i.e. a figure enclosed by three straight lines), but must be demonstrated through intuition.

⁶⁶ B3

⁶⁷ B4

that is supposed to show not just that a representation is *a priori*, but that “insight into the possibility of other synthetic a priori cognitions can be gained.”⁶⁸ That is, the transcendental exposition should illustrate the connection between the *a priori* and *a posteriori*.

Strawson argues, rightly in my view, that transcendental exposition of space offers the best argument for the apriority of space due to its connection with geometry.⁶⁹ Unlike Kant’s earlier arguments, the transcendental exposition offers his strongest argument against a relational view of space, such as the Leibnizian one. For, as Kant implies in the Elucidation to the Transcendental Aesthetic, a relational view of space is compatible with Kant’s own thesis that space is a “mere appearance,” but it is not compatible with the apodictic certainty of geometry.⁷⁰ As Kant aims to show in the transcendental exposition, only his own view can account for that certainty.

Geometry for Kant is science of space: “geometry is a science which determines the properties of space synthetically, and yet *a priori*.”⁷¹ This claim is familiar from the Introduction Section V, where Kant undertook to demonstrate both the synthetic and necessary (which is to say *a priori*) nature of geometrical judgments. Taking this as granted, Kant follows a regressive approach in the transcendental exposition. He asks “what then must the representation of space be for such a cognition of it [i.e. geometry] to be possible?”⁷² He answers first that space must be an intuition rather than a concept because “from a mere concept no propositions can be drawn that go beyond the concept,

⁶⁸ B40.

⁶⁹ Strawson, *The Bounds of Sense*, 52-55.

⁷⁰ A39-41/B56-58. Cf. Strawson, *The Bounds of Sense*, 52-53.

⁷¹ B40.

⁷² B40.

which, however, happens in geometry.”⁷³ This argument is drawn from the Introduction, where Kant showed that mathematical truths cannot arise by means of analysis. But if geometry is based upon an intuition rather than a concept, the next natural question is whether this intuition is pure or empirical. He concludes that *geometry must rest upon an a priori intuition of space* due to the apriority of geometrical propositions: “For geometrical propositions are all apodictic, i.e., combined with consciousness of their necessity, e.g., space has only three dimensions; but such propositions cannot be empirical or judgments of experience, nor inferred from them.”⁷⁴ Thus the argument of the transcendental exposition shows that geometry would not contain apodictic truths if it were not based upon an a priori intuition of space.

But this conclusion deserves further scrutiny. Even if geometry requires an a priori intuition of space, it is not self-evident that this same intuition underlies our empirical intuition of space. The non-Euclidean geometries developed after Kant’s time have dethroned the Euclidean model that Kant took for granted, and raised the possibility that natural space may be described equally or better by these other geometries.⁷⁵ The fact that non-Euclidean geometries can be formulated in a logically consistent manner shows that there should be no *a priori* epistemological preference for the Euclidean, and

⁷³ B41.

⁷⁴ B41.

⁷⁵ Although Kant is sometimes credited with recognizing this insofar as he claims that geometry is synthetic, which implies that alternative geometries are logically possible, Bennett rightly points out that this gives Kant too much credit (Bennett, *Kant’s Analytic*, 28-29). Kant’s whole emphasis in his writings is upon the necessity of Euclidean geometry, not on the possibility of its alternatives. One contrary view is that of Ted B. Humphrey who argues that “the Aesthetic contains no argument for the view that humanly intuited space is Euclidean, nor do any of its arguments concerning the origin and metaphysical status of space depend on that view” (“The Historical and Conceptual Relations between Kant’s Metaphysics and Geometry of Space” 484; see also *idem*, 505. Humphrey’s position is that Kant did assume intuited space to be Euclidean, but his arguments do not rely upon that conception.

that there is an open question as to which geometries are best applied to natural space.⁷⁶ As Bennett points out, even if we accept that “the outer world must be spatial, and so must obey a geometry, there are no grounds for insisting that it must obey a geometry *exactly* and *always*.”⁷⁷ Implicit in Kant’s argument is the assumption that the space described by geometry is one and the same as the space in which empirical objects are located – or at least that the two spaces obey the same laws. But this assumption may not be true. It could be that the truths of geometry, as Bennett suggests, are not ‘exactly and always’ valid in the empirical world. In such a case, the demonstrations of geometry would be valid according to the axioms upon which they rest, while the empirical world may rest on a different set of axioms.

This problem reveals that there is some ambiguity in the Kantian concept of ‘necessity’ as it pertains to mathematics. It may be true that pure mathematical propositions are necessary, in the sense that they follow invariably from a set of basic rules. Thus, it is not merely *possible* or *actual* but rather *necessary* that the sum of seven and five is equal to twelve. However, just because the proposition is necessarily true according to the rules of arithmetic does not entail that the proposition has any applicability in the empirical world. Although this seems unlikely in the case of adding

⁷⁶ For a summary of these objections see, e.g. Friedman, Michael “Kant’s Theory of Geometry” *The Philosophical Review* 94, no. 4 (Oct. 1985): 455-457; Grünbaum, Adolf, *Philosophical Problems of Space and Time* (Dordrecht: D. Reidel, 1973), 152-157; Reichenbach, Hans, *The Philosophy of Space and Time*, trans. Maria Reichenbach and John Freund (New York: Dover, 1958), 30 ff.; Russell, Bertrand, *Principia Mathematica* (New York: W.W. Norton & Co., 1964), 458 (§434).

⁷⁷ Bennett, *Kant’s Analytic*, 29. Kemp Smith makes a similar point against Kant: “Euclidean space, Kant implies, is given to us as an unyielding form that rigidly resists all attempts at conceptual reconstruction [...]. The modern geometer is not, however, prepared to admit that intuitional space has any definiteness or preciseness apart from the concepts through which it is apprehended; and he therefore allows, at least as possible, that upon clarification of our concepts space may be discovered to be radically different from what it at first sight appears to be” (*Commentary to Kant’s Critique of Pure Reason*, 118).

small integers, it is in principle possible that mathematics can describe numbers, figures, and relations which have no empirical correlate.

In essence, Kant has delineated two quite distinct criteria of *a priori* cognition, namely the criterion of universality-necessity and the criterion of empirical applicability. But the very case where these two criteria are supposed to converge, i.e. mathematics, actually shows the possibility of divergence. To repeat some words of Hume, “Though there never were a circle or triangle in nature, the truths, demonstrated by Euclid, would for ever retain their certainty and evidence.”⁷⁸ Clearly for Hume the “certainty and evidence” of Euclidean geometry is not based upon its applicability to the empirical world, but rather due to its internal consistency of its demonstrations. Thus even though Euclidean geometry may demonstrate the necessary properties of a particular figure, there is no guarantee that we encounter such a figure in the world. As Hume argues in the *Treatise*, the applicability of mathematics to the empirical world is a matter of probability, since we may make mistakes in our calculations or other psychological causes may interfere with our reasoning: “in all demonstrative sciences the rules are certain and infallible; but when we apply them, our fallible and uncertain faculties are very apt to depart from them and fall into error.”⁷⁹

By contrast, Kant holds not only (with Hume) that mathematical truths are necessary or infallible according to their own rules, but also (against Hume) that their cognitive value is entirely reliant upon their empirical applicability:

Even 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

⁷⁸ Hume, *An Inquiry Concerning Human Understanding*, 15 (§4, Part I).

⁷⁹ Hume, *A Treatise of Human Nature*, vol. 1, ed. David Fate Norton and Mary J. Norton (Oxford: Clarendon Press, 2011), 1.4.1.

still be without objective validity and without sense and significance if their necessary use [*notwendiger Gebrauch*] on the objects of experience were not shown.⁸⁰

And again:

Thus although in synthetic judgments we cognize *a priori* so much about space in general or about the shapes that the productive imagination draws in it that we do not need any experience for this, still this cognition would be nothing at all, but an occupation with a mere figment of the brain, if space were not to be regarded as the condition of the appearances which constitute the matter of outer experience.⁸¹

Thus Kant claims the connection between mathematics and the empirical world cannot be a haphazard one as Hume suggested. Without a necessary connection to the empirical world, mathematics would be “without sense and significance” and “an occupation with a mere figment of the brain.” Yet what argument does Kant have against the Humean position? What guarantee is there that mathematics has objective validity?

One way out of the problem would be to claim that space is the ‘condition of appearances which constitute the matter of outer experience,’ as Kant suggests in the second passage above. But such an argument would be rather tortured, perhaps even circular. In the transcendental exposition of space, Kant appeals to the apriority of geometry to establish the apriority of space. The question at hand is whether the *a priori* space of geometry is one and the same as natural space. To assert that the *a priori* space of geometry is the ‘condition of appearances which constitute the matter of outer experience’ would presuppose the very principle in question, i.e. that the space of geometry is one and the same as the space of outer experience.

⁸⁰ A156/B195.

⁸¹ A157/B196. See also A239-240/B298-299.

Consider the following example to illustrate the utility of mathematics in a Kantian picture. We empirically intuit a rectangular box, and measure its dimensions to be 10cm x 15cm x 5cm. Then we can apply certain geometrical formulas to determine that it has a volume of 750cm^3 or that it has a surface area of 550cm^2 . This knowledge may have various useful practical implications, e.g. when attempting to figure out how many items of a given shape may fit inside the box, or how much paint would be required to cover its surface. But all of this knowledge is hypothetical in nature: *if* there is a box of such dimensions, *then* its volume would be 750cm^3 , *then* its surface area would be 550cm^2 . The geometrical formulas have to be *applied* to a particular object in order to yield empirical cognition. The extent to which mathematics counts as empirical cognition depends on there being objects which are describable according to its rules.

But the issue is not just whether empirical objects conform *possibly* or *actually* to the rules of mathematics, but whether they do so *necessarily*. This question goes right to the heart of Kant's 'Copernican hypothesis' in metaphysics: "if intuition has to conform to the constitution of objects, then I do not see how we can know anything of them a priori; but if the object (as an object of the senses) conforms to the constitution of our faculty of intuition, then I can very well represent this possibility to myself."⁸² But we should not take this hypothesis as a solution and be on guard against presuming the very thing that we want to prove. What guarantee is there that "the object [...] conforms to the constitution of our faculty of intuition"? Kant has shown that geometry requires an a priori intuition of space, but what relation does this a priori intuition of space have to our empirical intuition? It is not sufficient to appeal simply to the Copernican hypothesis or

⁸² B xvii

to Kant's claim that our "cognition reaches appearances only."⁸³ in order to establish the conformity that Kant asserts.

But Kant himself seems to be unable to guarantee that there is such conformity.

As he writes in the B Deduction:

Sensible intuition is either pure intuition (space and time) or empirical intuition of that which, through sensation, is immediately represented as real in space and time. Through determination of the former we can acquire *a priori* cognitions of objects (in mathematics), but only as far as their form is concerned, as appearances; whether there can be things that must be intuited in this form is still left unsettled. Consequently all mathematical concepts are not by themselves cognitions, except insofar as one presupposes [voraussetzt] that there are things that can be presented to us only in accordance with the form of that pure sensible intuition.⁸⁴

It is well known that Kant entertains the possibility (if only later to disclaim it) that the empirical world might not conform to the categories of the understanding⁸⁵ – hence the necessity of a deduction of the categories. What is remarkable about the passage above is that Kant acknowledges a similar relation between pure and empirical intuition. We presuppose that things are presented to us in accordance with the form of pure intuition. But to presuppose is not to prove. To repeat what Bennett said, there are no grounds for assuming that the outer world will obey a geometry *exactly* or *always*.

Elsewhere Kant claims that empirical phenomena cannot contradict what is mathematically demonstrated on the grounds that the pure intuition of space and time are conditions for empirical intuition. Therefore, the laws applicable to pure intuition will also apply to empirical intuition: "empirical intuition is possible only through the pure intuition (of space and time) [...]. The synthesis of spaces and times, as the essential form

⁸³ B xx

⁸⁴ B147, underlining added. See also A223-224/B271.

⁸⁵ A89/B122.

of all intuition, is that which at the same time makes possible the apprehension of the appearance, thus every outer experience, consequently also all cognition of its objects, and what mathematics in its pure use proves about the former is also necessarily valid of the latter.”⁸⁶ This is more of an assertion than an argument, however. The way that pure intuition makes empirical intuition possible is presumably the claim that objects of empirical intuition are necessarily spatio-temporal. This point ought to have been demonstrated in the Transcendental Aesthetic, but which, as I have been arguing, is lacking.

The point that I have been developing is that there is a troubling assumption in Kant’s arguments concerning geometry and space. Specifically, in Section V of the Introduction. Kant argues that geometry is (1) synthetic and (2) *a priori*, but he takes for granted that geometry is (3) empirically applicable. In the transcendental exposition, he argues *from* (1), (2), and (3), that space is (a) *a priori* and (b) empirically applicable. But the argument for empirical applicability of geometrical space is entirely assumed. Kant may argue legitimately that geometry describes an *a priori* space. The necessity (in the sense of rigorous consistency) of the truths of geometry depends on this. But he lacks an argument to show that these truths are necessarily applicable to the space that we experience. Instead, Kant takes for granted that geometry is true (in the sense of empirically applicable) in Section V of the Introduction. In the transcendental exposition, he argues that because geometry is empirically applicable, and because its propositions are necessary, the same space that geometry describes must also be the space of empirical reality: “Now how can an outer intuition inhabit the mind that precedes the objects

⁸⁶ A165/B206.

themselves, and in which the concept of the latter can be determined *a priori*?” – all this Kant takes for granted – “Obviously not otherwise than insofar as it has its seat merely in the subject, as its formal constitution for being affected by objects and thereby acquiring *immediate representation*, i.e. *intuition*, of them, thus only as the form of outer *sense* in general.”⁸⁷ Kant thus moves from the necessity of geometry (in the sense of rigorous consistency) to the necessity of geometry (in the sense of its necessary empirical applicability) to conclude that the *a priori* form of space is also “the form of outer sense in general.” But this move is unwarranted without an argument for the empirical applicability of geometry.

We may summarize these arguments with a remark on Strawson. Strawson argues that what the thesis of transcendental idealism means for space is that “faculty of spatial intuition, or spatial awareness, which can be exercised purely” is also “responsible for our awareness of spatially ordered and spatially characterized terms in empirical intuition.”⁸⁸ As a description of Kant’s commitments, this seems right. But of course his mention of the ‘same faculty’ alludes to a well-known passage in the metaphysical deduction where Kant claims that the “the same function.”⁸⁹ is at work in both synthesizing concepts in a judgment and synthesizing sensible content in an intuition, and it is this claim that the transcendental deduction seeks to prove. Strawson’s allusion thus hints at the problem we have been investigating in this chapter, namely, what guarantee is there that the same ‘faculty’ that operates both purely and empirically? Isn’t there just as

⁸⁷ B41.

⁸⁸ Strawson, *The Bounds of Sense*, 59.

⁸⁹ A79/B104-105

much need for a deduction of pure intuition as there is of the categories? To answer this question, we must push forward into the *Critique*.

§7 Conclusion

Space and time are deemed by Kant to be the pure forms of intuition, empirical things are their matter. But, as I have argued in this chapter, the Transcendental Aesthetic suffers from an insufficiency, namely that Kant fails to show how the pure form of space relates to its matter, and that he correspondingly fails to show how particular spatio-temporal determinations arise. The arguments of the metaphysical exposition achieve only a conditional necessity: a pure form of space must be presupposed *if* we are to determine empirical spatial relations. But there is no necessity that empirical objects are inherently spatial. In fact, by rigorously distinguishing between matter (empirical content) and form (the pure intuitions of space and time), Kant makes the problem more difficult. For form is then extrinsic to matter, but is yet supposed to be necessarily connected to it. The transcendental exposition of space provides Kant's best argument for an *a priori* representation of space, since such a representation is presupposed in geometry. But he lacks an argument to demonstrate that this *a priori* geometrical space is the same as the space that we empirically intuit.

To reiterate, I use here the language of Kant's 'failing' or 'lacking' an argument not in order to pronounce his project a failure, but to indicate certain *insufficiencies* in it. These insufficiencies will, I believe, be at least partially remedied in the ensuing chapters. It would be unjust to blame Kant for being unable to say everything at once. To identify points of insufficiency prepares one's expectations for what is to come. This is what I've

tried to do in this chapter. If at this point in Kant's argument form and matter seem too distant and disconnected from one another, this does not preclude that Kant will later show the ground of their connection.

Chapter Three: Forms of the Understanding

In the previous chapter I argued that despite some convincing arguments for the apriority of space, the Transcendental Aesthetic is insufficient insofar as it has no explanation for how an *a priori* representation of space grounds particular spatio-temporal determinations. I suggested that the reason for this is that particular spatio-temporal determinations require a synthesis that can only be accomplished by a faculty of spontaneity, which Kant identifies with the understanding. Given this claim, a reader may find their expectations frustrated when reading the Transcendental Analytic, since Kant hardly has anything to say directly about particular spatio-temporal determinations. Instead the Analytic appears to be more directly about concepts and judgments, that is, basically about how we can classify various things together or discriminate them from one another along the lines of “A is B,” “C is not D,” “some E is possibly F,” etc. Despite the apparent distance from the concerns of space and time, this account of judgment does lay the groundwork for an explanation of particular spatio-temporal determinations. For, one of Kant’s overarching arguments is that the different kinds of synthesis – that is, of putting together different contents or matters – may be discovered by looking at the different forms of judgment. If such syntheses are to have an *a priori* validity, then underlying the different kinds of judgment must be some *a priori* principles, which Kant calls the *categories* and which he claims in another work are “nothing but the mere forms of judgment insofar as they are applied to intuitions.”⁹⁰ So the key to the Transcendental Logic is to discover the connection between, on the one hand, concepts, judgments, and

⁹⁰ *Metaphysical Foundations of Natural Science*, 4:474. See also *What real progress has metaphysics made in Germany?* (20:272).

the categories, and, on the other hand, discrete empirical objects. Or, expressed in hylomorphic terms, to discover how the forms of judgment are applicable to and explanatory of phenomenal matters. As we shall see, Kant's answer in brief is that we could not experience particular spatio-temporal objects unless those objects are also determined by categories.

This chapter will not completely demonstrate this claim, however. Here we will look at what kinds of synthesis are operative in judgment, and, by extension, the experience of particular spatio-temporal objects. This will further develop the notions of form and matter in *Critique*, particularly illustrating the way that Kant sees logic and the pure understanding as something essentially formal, i.e. without content. The table of judgments and the table of categories specify the different *forms* according to which *matter* or *content* is synthesized.

This chapter is divided into four sections. The first establishes the formality of logic in the *Critique of Pure Reason*. The second section looks to historical antecedents to help interpret and clarify the meaning of logical formality. I examine three different accounts: one that claims a direct relation between Kant's conception of form and Aristotelian physics and epistemology; one based on the notion of a *modus considerandi*; and one based on the legacy of Aristotelian logic. I argue against the first two and endorse the latter. In the third section, I examine the different forms of judgment through a reading of the chapter "On the Clue to the Discovery of all Pure Concepts of the Understanding," also known as the metaphysical deduction. I argue that Kant rightly sees the form of a judgment as consisting in uniting different contents, although I concede, in line with his objectors, that he does not have an exhaustive account of the forms of

judgment. In the fourth and final section, I give a preliminary account of the role of judgment in cognizing sensible particulars. I argue that Kant's account of synthesis is undergirded by a version of perceptual atomism that has its roots in Locke and Hume, although Kant confronts more directly and profoundly the problem of representing complex unities than either of these two.

§1: The Formality of Logic

One of the defining characteristics of logic for Kant is its formality. Just as the Transcendental Aesthetic sought to uncover the *a priori* conditions of intuition as the basis for *a priori* cognition, the Transcendental Analytic attempts to do the same with the understanding: "pure intuition contains merely the form under which something is intuited, and pure concept only the form of thinking of an object in general."⁹¹ In contrast to the Aesthetic, Kant seemingly feels like he is on well-trodden ground when giving this account of logic. In the preface to the B edition, he cites logic as an uncontroversial example of an *a priori* science, and claims that the reason for its success is its formality: logic is "justified in abstracting – is indeed obliged to abstract – from all objects of cognition and all distinctions between them; and in logic, therefore the understanding has to do with nothing further than itself and its own form."⁹² This conception of form indicates, in the first place, the absence of a specific content. Indeed, this claim is

⁹¹ A51/B75; *italics added*. An even more explicit statement of the isomorphism comes from an early formulation of this from R4629, a note dated to Kant's silent decade: "Logical form is for the understanding's representation of a thing what space and time are for the appearances themselves: namely the former contains the positions for ordering them [*die stellen, sie zu ordnen*]" (17:614). Here though Kant seems to still adhere to the pre-critical notion that the understanding can grasp things *as they are*, while space and time offer only appearances.

⁹² B ix.

repeated frequently in Kant's own description of general logic⁹³ at the opening of the Transcendental Logic:

A general but pure logic therefore has to do with strictly *a priori* principles [...] but only in regard to what is formal in their use, be the content what it may (empirical or transcendental).⁹⁴

As general logic, it abstracts from all contents of the cognition of the understanding of the difference of its object, and has to do with nothing but the mere form of thinking.⁹⁵

General logic abstracts, as we have shown, from all content of cognition, i.e. from any relation of it to the object, and considers only the logical form in the relation of cognitions to one another, i.e., the form of thinking in general.⁹⁶

[G]eneral logic [...] considers representations, whether they are originally given *a priori* in ourselves or only empirically, merely in respect of the laws according to which the understanding brings them into relation to one another when it , and therefore it deals only with the form of the understanding, which can be given to the representations wherever they may have originations.⁹⁷

General logic analyzes the entire formal business of the understanding and reason into its elements, and presents these as principles of all logical assessment of our cognition.⁹⁸

These characterizations of general logic are negative in character: they state that logic is defined by its *lack* of content. But that does not mean that general logic is about nothing at all. As we have just seen, it “has to do with nothing further than itself and its own form.”⁹⁹ In other words, the ‘content’ or ‘matter’ of logic is its own form. This reflexivity is what makes the study of logic so unique: scrambling the usual distinction between

⁹³ Of course, Kant also distinguishes general logic from transcendental logic. Transcendental logic does not “abstract from all content of cognition” and instead “concern[s] the origin of our cognition of objects insofar as that cannot be ascribed to objects” (A55-56/B80), i.e. it deals with the concepts that relate *a priori* to objects. I will consider this in Section III below.

⁹⁴ A53/B77.

⁹⁵ A54/B78.

⁹⁶ A55/B79.

⁹⁷ A56/B80.

⁹⁸ A60/B84.

⁹⁹ B ix.

form and content, in logic the very form of thinking serves as its own content. It is by turning thought back against itself and making it into its own content that we can discover the rules by which any other content ought to be thought. As is well known, Kant identifies the forms of thought with twelve concepts that he calls the “categories.”¹⁰⁰ But we cannot jump to this account straightaway. For, each of these things – categories, forms, and understanding – requires some clarification. What does it mean to say that the understanding has ‘forms’?

John MacFarlane, in his highly insightful but unpublished study, distinguishes between three different types of logical formality. It is not necessary to elaborate on the distinction in detail, however, since MacFarlane is particularly interested in situating Kant in relation to later logicians. In one sense, Kantian logic is formal because, as we just saw, it is free of any particular content (what MacFarlane identifies as 3-formality).¹⁰¹ Yet logic is also formal in another sense for Kant. As MacFarlane argues, to designate something as “formal” can also indicate that it is constitutive of a certain matter. For example, there are some rules of chess that must be adhered to: the specification of the different pieces, their initial starting place on the board, the rules for how each piece can move, the various conditions for winning, losing, and tying a game, etc. Thus the rules of chess are its ‘forms’ that make the game what it is, while the actual gameplay is the matter. Forms are to matters as rules are to activities. In MacFarlane’s normative interpretation, it is possible to ignore these rules, but then the game that one

¹⁰⁰ See *Metaphysik Mrongovius*: “something else besides appearance belongs to experience, for it is not merely perception, but rather the unity of perceptions connected with one another according to general rules. The matter must be given, the form consists in the concepts of the understanding. These are the categories, which constitute the form of all human experience” (29:831).

¹⁰¹ MacFarlane, John, “What Does It Mean to Say that Logic is Formal?,” 51.

plays could not be justifiably called chess.¹⁰² Thus when Kant claims that general logic “contains the absolutely necessary rules of thinking, without which no use of the understanding takes place,”¹⁰³ he means that it is constitutive of thought in this way: whatever one may do with the mind, one must adhere to the rules specified in general logic in order for one’s activity to count as “thinking.”

As a mere classification of the different senses of the formality of logic, there is little to object to in MacFarlane’s account. But certain questions inevitably arise from this: how does form come to be interpreted as generality and as being constitutive of a certain activity? And what consequences does this interpretation have? To answer the first question is the task of the next section, and to answer the second is the task of the remaining sections in the chapter.

§2: Historical Illuminations of the Form and Matter of the Understanding

Kant is less of an innovator in speaking of forms of the understanding than he is in characterizing space and time as ‘forms’ of intuition over and against a particular ‘matter.’ Indeed, in calling the forms of the understanding ‘categories’ Kant explicitly hearkens back to Aristotle, and says rather vaguely that “our aim is basically identical to his, although very distant from it in execution.”¹⁰⁴ But his account of these forms is quite distinct from Aristotle or any other of his predecessors, and so we ought to be cautious of superficial similarities that conceal deep philosophical shifts. At the same time, it is necessary to recognize how certain concepts may be removed from their original contexts

¹⁰² This example is paraphrased from MacFarlane, “What Does It Mean to Say that Logic is Formal?” 52-53.

¹⁰³ A52/B56. See also *Jäsche Logik* (9:12-13).

¹⁰⁴ A79-80/B105.

and put to new purposes, even while maintaining certain similarities to their original use. Even as many early modern philosophers were rejecting the language of form and matter, Kant revives it in a new context.¹⁰⁵ As John Macfarlane writes, “Kant does not take his logical hylomorphism from any of his modern predecessors: he self-consciously, adopts it *against* the current of his time, for his own purposes.”¹⁰⁶ Because the Analytic has attracted much more scholarly attention than the Aesthetic, there are more robust accounts of the intellectual genesis of Kant’s categories than of his account of space and time. I shall focus solely on three which concern particularly the relation of form and matter, the first two of which I consider to be inadequate, and the final one I endorse. The first claims a direct historical linkage between the Aristotelian articulation of the role of matter in physics, and by extension the relation of mind and object. The second deals with an indirect linkage connected to the term *modus considerandi*. And the third, which I endorse, is another indirect linkage related to the legacy of Aristotelian logic, particularly syllogistic.

§2a: Form and Matter in Aristotelian Physics and Epistemology

As we have already said, Aristotle was the first to introduce the form-matter dichotomy, specifically for the purpose of explaining the nature of change. Roughly speaking, ‘matter’ is what is supposed to underlie a change, while ‘form’ is supposed to be the resulting shape (μορφή, *morphé*) or actuality (ἐντελέχεια, *entelecheia*) of the thing

¹⁰⁵ It is worth mentioning that not all early modern philosophers rejected the language of form and matter. It persisted and was reinterpreted in other contexts as well. For a classic study of this see, Emmerton, Norma, *The Scientific Reinterpretation of Form* (Cornell: Cornell University Press, 1984).

¹⁰⁶ MacFarlane, “What Does It Mean to Say that Logic is Formal?” 79-80.

that is changed.¹⁰⁷ Aristotle frequently illustrates this relation by appealing to examples of making and artisanal production (τέχνη, *techné*). In one well-known example, a lump of bronze (the matter) may be sculpted into the shape of a human (the form). But this dichotomy also played an analogous role in explaining the relationship of the mind to objects. In the *De Anima*, the thinking part of the soul (ἡ νοητική) is described as the “place of forms.”¹⁰⁸ In some well-known but hotly-debated paragraphs Aristotle gives two accounts of this thinking part of the soul. In one respect, it is passive, like matter, and receives the form of an object from without. But in another respect, Aristotle says that thinking is active like an art (e.g. the art of sculpting, carpentry, etc.), which evidently means that it imposes forms upon matter: the matter persists through the change (even once sculpted it is still bronze), while the form has changed from something lacking a human shape to having a human shape. Aristotle extrapolates from this and other examples to argue that form and matter are the two principles of all natural objects and are explanatory of all natural and artificial change.¹⁰⁹

The fact that Aristotle takes examples of artisanal production as paradigmatic of the form-matter relationship is significant. It is the fundamental example that echoes throughout all subsequent uses of the term (which is not to say determinative for the subsequent uses). This point has been urged by Martin Heidegger, who argues that the

¹⁰⁷ Aristotle treats form (*eidos*) and shape (*morphé*) as synonyms in *De Anima* 407b23-24, 412a8, and 414a9. He also identifies form with actuality (*entelecheia*) in *De Anima* 412a9-10 & 412a19-21. Polansky argues that for Aristotle *morphé* means something closer to organization than shape, but sorting out this distinction is beyond the scope of this dissertation. See Polansky, Ronald, *Aristotle's De Anima: A Critical Commentary* (Cambridge: Cambridge University Press, 2007) 101 n. 36. All references to Aristotle's works in English refer to the translations in Aristotle, *The Complete Works of Aristotle*, 2 vols., ed. Jonathan Barnes (Princeton, Princeton University Press, 1984). For the Greek text of *De Anima*, I have consulted Aristotle, *De Anima*, ed. W.D. Ross (Oxford: Oxford University Press, 1979).

¹⁰⁸ Aristotle, *De Anima* III.4 (429a).

¹⁰⁹ See *Physics* I.7 (191a); *Physics* II.7 (199a-b). The difference between natural and artificial change for Aristotle is that natural objects have their own efficient cause within them (which Aristotle identifies with their form), whereas artificial objects have their efficient cause outside them (*Physics* II.1 (192b)).

whole Aristotelian ontology, and its legacy persisting through to Kant and Hegel, is oriented around *production*. Drawing on the original meaning of *eidos* (form) as ‘look,’ Heidegger argues that form-as-look, is the image of an object that an artisan has in their mind as they are making an object. It is this ‘anticipated look’ of the object that is its true form, while the shape (*morphé*) of an object is interpreted as a derivative of its anticipated look. Heidegger writes:

all forming of shaped products [*alles Bilden von Gebilden*] is effected by using an image [*eines Bildes*], in the sense of a model [*des Vorbildes*], as guide and standard. The thing is produced by looking to the anticipated look [*vorweggenommene Aussehen*] of what is to be produced by shaping, forming. It is this anticipated look of the thing, sighted beforehand, that the Greeks mean ontologically by *eidos*, *idea*.¹¹⁰

Playing on the etymological connection in German between *Bild* (image), *Einbilden* (to imagine), and *Bilden* (to build, make, produce, construct), Heidegger suggests that all seeing, looking, apprehending, intuiting, etc. has a view towards production – even when we apprehend natural objects. We see a thing as something *made*, *produced*. When we want to know what a thing is and how it is, we appeal to the concepts of form and matter, that is, the concepts of *techné*. It is not baseless to claim that Aristotle views natural objects in this way. For when distinguishing natural objects from artificial ones, Aristotle says that it simply comes down to the fact that natural objects have a principle of change within themselves, while artificial objects have their principle outside (i.e. the artisan).¹¹¹

¹¹⁰ Heidegger, Martin, *The Basic Problems of Phenomenology*, trans. Albert Hofstadter (Bloomington: Indianapolis University Press, 1988), 106. The German text comes from Heidegger, Martin, *Die Grundprobleme der Phänomenologie (Gesamtausgabe Bd. 24)* (Frankfurt am Main: Vittorio Klosterman, 1975), 150.

¹¹¹ Aristotle, *Physics*, II.1, 192b.

We might say that each natural object is its own artisan. Even though Aristotle says that art (*technê*) imitates nature, nature itself is thus interpreted through the lens of art.¹¹²

For Heidegger, this orientation toward production becomes determinative for philosophy, even as Aristotelian philosophy (narrowly-construed) falls out of favor. He finds the same basic orientation in Kant: “It is no accident that Kant, for whom the concepts of form and matter, *morphe* and *hyle*, play a fundamental epistemological role, conjointly assigns to imagination a distinctive function in explaining the objectivity of knowledge. Thus, *eidos* as the look, anticipated in imagination, of what is to be formed, gives the thing with regard to what this already was and is before all actualization.”¹¹³ To be clear, Heidegger is not asserting that Kant had ahylomorphic account of nature in the manner of Aristotle or the scholastics. He rather means that even with Kant’s Copernican Revolution, the connection between form, look, and production, all persists even as the ancient understanding of these terms is abandoned.

The argument that Heidegger is advancing in *The Basic Problems of Phenomenology* is couched within a broader examination of the concepts of existence and essence that we cannot examine here. In regards to his specific claims about Kant and his conception of form, there is a kernel of truth, but they must be qualified. Kant clearly associates form with a kind of production, but Kantian forms are not species-concepts as they were for Aristotle (I shall have more to say about this in Section 4). The form that the mind brings to the world is not like the humanoid shape imposed on the statue, or the classification of various plants, animals, and elements. The Kantian forms are rather laws

¹¹² The kinship between nature and art is perhaps best expressed in *Physics* II.8 (199a): “Thus if a house, e.g. had been a thing made by nature, it would have been made in the same way as it is now by art; and if things made by nature were made not only by nature but also by art, they would come to be in the same way as by nature.”

¹¹³ Heidegger, Martin, *The Basic Problems of Phenomenology*, 107.

for combining the content of intuition, which first allow discrete objects and species-concepts to arise. In one of the passages where Kant most clearly states *that* and *in what sense* nature is something *made*, he emphasizes precisely the legislative character of the understanding: “The understanding is thus not merely a faculty for making rules through the comparison of appearances; it is itself the legislation for nature, i.e. without the understanding there would not be any nature at all, i.e. the synthetic unity of the manifold of appearances in accordance with rules.”¹¹⁴ Although Kant quite clearly views nature here as something that is *made*, it is not the artisanal mode of production to which Heidegger likens it. It is rather legislative. The understanding makes nature what it is by subjecting the manifold of intuition to its laws. We shall have more to say about this in our final chapter on the Transcendental Deduction. For now, it suffices to have established the connection between the form-matter dichotomy and production, so that we can turn to their role in Aristotelian epistemology.

Although the form-matter dichotomy was devised by Aristotle principally for the explanation of natural objects, it played an analogous role in explaining the relationship of sensation and thinking to objects. This dichotomy is supposed to explain the nature of change, and when we sense or think of an object, some kind of change occurs in our soul: we go from not-sensing to sensing, or not-thinking to thinking. In the case of sensation, this occurs when an object “moves” or “affects” our sense organs.¹¹⁵ Whereas Heidegger suggests that the form-as-look of a thing is determinative of an object’s form-as-shape, in Aristotle’s own account of sensations and thinking, the reverse is generally the case. Although the metaphor of artisanal production is operative, the mind is treated as the

¹¹⁴ A127.

¹¹⁵ See *De Anima* II.5, 416b.

product that is shaped by the object, which is treated like the artisan. Thus, Aristotle compares the soul to a wax being impressed with a seal from a signet ring: “what produces the impression is a signet of bronze or gold, but not *qua* bronze or gold; in a similar way the sense is affected by what is colored or flavored or sounding not insofar as each is what it is, but insofar as it is such and such and according to its form.”¹¹⁶ Just as the seal of the ring imprints a copy of itself in the wax, such that the two have the same shape while being numerically distinct, the same thing occurs in the sensation of sensible qualities. When the eye sees a green leaf, the greenness of the leaf is copied, so to speak, in the eye, but the eye does not itself become a leaf: “what has the power of sensation is potentially like what the perceived object is actually, that is, while at the beginning of the process of its being acted upon are dissimilar, at the end the one acted upon is assimilated to the other and is identical in quality with it.”¹¹⁷ In the Aristotelian account of sensation, the sense organs are akin to unformed matters, which receive the forms of objects (their sensible qualities) in the act of sensation. If the form-matter dichotomy is oriented around production, sensation is to be understood as an instance of objects acting, producing an effect in us.

Aristotle’s account is more complicated when it comes to thinking as opposed to sensing. In some well-known but hotly debated paragraphs, Aristotle gives two accounts of this thinking part of the soul (ἡ νοητική). In one respect, he says, it is passive, like matter, and receives the form of an object from without (like the shape of the human imposed upon the bronze). But in another respect, Aristotle says that thinking is active

¹¹⁶ *De Anima* II.12, 424a20-24. The word “form” at the end of this passage translates *logos* rather than *eidos*, though as Polansky points out (*Aristotle’s De Anima*, 344), Aristotle often uses *logos* as a synonym for sensible form.

¹¹⁷ *De Anima* II.5, 418a3-6.

like an art (*techné*, e.g. the art of sculpting, carpentry, etc.), which evidently means that it imposes forms upon matter:

Since in every class of things, as in nature as a whole, we find two factors involved, a matter which is potentially the particulars included in the class, a cause which is productive in the sense that it makes them all (the latter standing to the former, as e.g. an art to its material), these distinct elements must likewise be found within the soul. And in fact thought, as we have described it, is what it is by virtue of becoming all things, while there is another which is what it is by virtue of making all things.¹¹⁸

Aristotle does not elaborate much further on these two aspects of thinking, or explain in greater detail how they are related, which has spurred on millennia of controversy and commentary.¹¹⁹ (His further descriptions of the two aspects are not germane to our purposes and, in fact, they only heighten the difficulty, such as Aristotle's claim that the active intellect is separable, impassible, unmixed, immortal, and eternal). What we may say at a general level is that form is something productive: it is something that either originates in an object and brings about an effect in the mind, or it originates in the mind and brings about an effect on something else. The mind is called the "place of forms" because it either receives the forms of objects or produces the forms of objects.

Whereas Kant differentiated the understanding from the sensibility on the grounds that the latter is receptive and the former is spontaneous,¹²⁰ Aristotle's account is much

¹¹⁸ Aristotle, *De Anima*, III.5 (430a). Another clear description of the material mind can be found in *De Anima* III.4 (429a): "The thinking part of the soul must therefore be, while impassible, capable of receiving the form of an object."

¹¹⁹ Much of the controversy has to do with whether the active intellect is a human capacity or the capacity of something separate (e.g. God). For an account of some of the different views, one may consult Kosman, Aryeh, "What does the Maker Mind Make?" in *Essays on Aristotle's De Anima*, edited by Martha Nussbaum and Amelia Oksenberg Rorty, (Oxford: Oxford University Press, 1992) 343-358, and Kosman, "Divine Being and Divine Thinking" in *Aristotle: Critical Assessments I: Logic and Metaphysics*, edited by Lloyd P. Gerson (London and New York: Routledge, 1999), 339-355. Kosman names Plotinus, Albinus, Berkeley, and Leibniz as those who (though not all consciously following or interpreting Aristotle) ascribe a productive capacity to the human mind, whereas philosophers like Avicenna and Maimonides ascribe it rather to God.

¹²⁰ A68/B93.

more ambiguous. To explore this ambiguity can shed light on Kant's own account of thinking as well as his concept of form. Aristotle says that thinking is "held to be in part imagination and in part judgment,"¹²¹ and he also says that "thought must be related to what is thinkable, as sense is to what is sensible."¹²² As we've already seen, the senses are passive with respect to what is sensible, but imagination and judgment are spontaneous at least some of the time. Whereas sensation requires the presence of an object to the sense organ, Aristotle says that "imagining lies within our own power whenever we wish,"¹²³ and once we have acquired some knowledge, it becomes possible to think on our own initiative.¹²⁴ But imagination and judgment are not identical either. A judgment, according to Aristotle, must always be either true or false, whereas an imagination need not be.¹²⁵ In fact, imagination and judgment may even contradict one another, such as when we imagine that the sun is merely one foot in diameter, but judge that it is in fact much larger.¹²⁶ Thus it is unclear what we are actually doing when we think: are we imagining or judging or both? Are the forms of thought more akin to images or to judgments?

The dilemma does not come to a clear answer. At the end of Book III.3, Aristotle says that he has sufficiently covered the imagination and can now turn to the part "with which the soul knows," which suggests that judgment is what most properly deserves to be called thinking. However, he readily admits that there can be no judgment without

¹²¹ *De Anima* III.3, 427b27-28.

¹²² *De Anima* III.4 (429a16-18).

¹²³ *De Anima* III.3 (427b16-17).

¹²⁴ *De Anima* III.4 (429b7).

¹²⁵ *De Anima*, III.3 (427b16-17).

¹²⁶ *De Anima* III.3 (428b2-4).

imagination and no thought without images.¹²⁷ The indispensability of images goes back to Aristotle's receptive account of the senses and the mind more generally. Since sensation requires the activity of the object upon the sense organs, the sense organs contain no content prior to such activity. This is all the more true of the mind (again leaving aside the difficulties of the active intellect mentioned above), for the passive intellect "can have no nature of its own other than that of having a certain capacity."¹²⁸ So sensation is what first provides the mind with something about which to think. The sensible forms of objects are imprinted on the senses. The imprint that remains are the images with which the imagination deals: "for images are like sensuous contents except that they contain no matter."¹²⁹ These images, in turn, become the content of thought:

To the thinking soul images serve as if they were the contents of perception [...]. That is why the soul never thinks without an image.¹³⁰

The faculty of thinking then thinks the forms in the images.¹³¹

When the mind is actively aware of anything it is necessarily aware of it along with an image.¹³²

Even though making a judgment is not exactly the same thing as imagining an object, it is not possible to make a judgment without an image. Though Aristotle distinguishes thinking from sensation and, to some extent, from imagination, he obviously sees thinking as analogous to them.¹³³ Objects have their own 'form' or shape which are transferred, so to speak, into the mind to become the contents of thought, i.e. what we

¹²⁷ *De Anima*, III.3 (427b16) & III.7 (431a16-17).

¹²⁸ *De Anima*, III.4 (429a21-22).

¹²⁹ *De Anima*, III.8 (432a9-10).

¹³⁰ Aristotle, *De Anima*, III.7, (431a).

¹³¹ Aristotle, *De Anima*, III.7 (431b).

¹³² *De Anima*, III.8 (432a8-9).

¹³³ Thus Aristotle, *De Anima*, III.4 (429a): "Thought must be related to what is thinkable, as sense is to what is sensible."

think *about*, which Aristotle then calls images. The mind is, generally speaking, empty until it is acted upon by sensible objects, whose forms are then treated by different faculties of the mind up to the point where the mind can think of these forms without the presence of the objects.

In the Aristotelian account, the forms of thought thus go back to those sensible qualities which are active upon the mind. Although the mind is spontaneous in the sense that it can initiate thought and imagination, it first requires the reception of forms through sensibility. These forms are the *content* of thought, i.e. what we think *about*.

By contrast, Kant is much more insistent upon the necessity of a spontaneous, productive capacity within the mind, which is precisely how he defines the understanding in contrast to sensibility. But there is also an important difference in what this spontaneous, productive capacity does. For Kant, the central activity of the understanding is *synthesis*, that is, “the action of putting different representations together with each other and comprehending their manifoldness in one cognition.”¹³⁴ Living and writing in a post-Cartesian world, it would have been hopelessly naive for Kant to claim (at least without further argument) that there are Aristotelian substances whose sensible qualities are imprinted on the mind, and that these qualities correspond to the representation in the mind so neatly like the impression of a signet ring on wax. Instead, Kant is oriented around the constitution of experience: how can we *represent* the world as consisting of discrete objects in mutual interaction with one another, and are we *justified* in doing so? In order to explain how we can represent discrete objects, i.e. a variety (or manifold) of sensible qualities which we unite and ascribe to a single thing, the object, it is necessary

¹³⁴ A77/B103.

to have recourse to synthesis, since “we can represent nothing as combined in the object without having previously combined it ourselves.”¹³⁵ Thus the productive aspect of form, which for Aristotle explained how objects affected us, is transferred to the mind to explain how we represent objects as unities of a manifold.

This means that what Aristotle calls ‘forms’ of thinking is actually equivalent to what Kant calls the ‘matter’ of thinking, that is, the mere sensuous content received by the mind. This content on its own is unintelligible.¹³⁶ In Kant’s famous statement, this content is “blind” and must first “be gone through, taken up, and combined in a certain way in order for a cognition to be made out of it.”¹³⁷ Though Kant, like Aristotle, admits that the mind is empty without sensation, the activity of thinking is not so much to recall the images left over from sensation, but rather to *synthesize* them. Herein lies the spontaneous and productive aspect of the understanding. For, the various ways that a content may be synthesized are called by Kant, in a nod to Aristotle, the “categories” and “the forms of thought.”¹³⁸ In this, the productive aspect of form is transferred from the object (in the Aristotelian account), to the subject (in the Kantian account). The manner of production is changed from a kind of imprinting to a synthesizing.

To understand this, we must note the central importance of judgment in Kant’s account of thinking. Whereas Aristotle said that thinking is in part imagination, and in part judgment, Kant lays the emphasis much more on judgment. It is from the various forms of judgment that he discovers the categories, and he argues that all acts of the understanding may be ‘traced back’ to judgment:

¹³⁵ B130.

¹³⁶ This claim is denied by those who argue that Kant believes in non-conceptual content. I deal with their objections in §4 below; in Chapter Four §2; and in Chapter Five §2.

¹³⁷ A77/B103.

¹³⁸ B150.

We can, however, trace all actions of the understanding back to judgments, so that the understanding in general can be represented as a faculty for judging.¹³⁹

The business of the senses is to intuit; that of the understanding to think. To think, however, is to unite representations in a consciousness [...]. The unification of representations in a consciousness is judgment.¹⁴⁰

However, Kant's account of the relationship between thinking (*qua* judging) and imagination is complex, and he does not always express himself consistently. In one passage he gives imagination a highly expansive role, seemingly attributing all synthesis to the imagination: "synthesis in general is [...] the mere effect of the imagination, of a blind though indispensable function of the soul, without which we would have no cognition at all, but of which we are seldom even conscious."¹⁴¹ He also later suggests that imagination and understanding are two different names for the same thing: "[i]t is one and the same spontaneity that, there under the name of imagination and here under the name of understanding brings combination into the manifold of intuition."¹⁴² In such passages, Kant essentially identifies the imagination with the understanding, seeing only a difference in name between them. But elsewhere Kant attributes all combination, i.e. synthesis, to the understanding instead.¹⁴³ In the B Deduction §24 he distinguishes a figurative synthesis from an intellectual synthesis, and attributes the former to the imagination, and the latter to the understanding. In the same section, he describes the

¹³⁹ A69/B94.

¹⁴⁰ Kant, *Prolegomena to any future metaphysics*, 4:304.

¹⁴¹ A78/B103. Interpreters going back as far as Hegel have latched on to claims like this, as well as Kant's account of the productive imagination in the Transcendental Deduction, to argue that imagination is the key to Kant's whole system. Interestingly, in Kant's own copy of the A edition of the *Critique of Pure Reason*, he altered the phrase "function of the soul" to "function of the understanding," which suggests that he saw imagination as subordinate to the understanding. This change, however, did not make it into the B edition of the *Critique*. See the discussion of this by Henry Allison in *Kant's Transcendental Deduction*, 174-175.

¹⁴² B162n.

¹⁴³ B130: "all combination [...] is an act of the understanding."

imagination as "an effect of the understanding on sensibility,"¹⁴⁴ which suggests that imagination is something distinct from and subordinate to the understanding. In yet other places restricts the imagination to the role of making our concepts sensible (their *Darstellung*, *Versinnlichung*, or *exhibitio*).¹⁴⁵ Generally speaking, the readers of Kant who seek to identify imagination and understanding attribute functions to it distinct from the narrow function of producing sensible images. One of the most extreme proponents of this is Hegel, who identifies the imagination with reason itself and gives it the role of sundering the object from the subject.¹⁴⁶

The predominant view among scholars, however, acknowledges that Kant expands the role of the imagination compared to his philosophical predecessors, but resists identifying it with the understanding or reason.¹⁴⁷ In particular, imagination is responsible for synthesizing the manifold of intuition, which makes possible the

¹⁴⁴ B152.

¹⁴⁵ See *Critique of Judgment*, 5:232 and 5:351-352; *On A Discovery*, 8:222.

¹⁴⁶ Hegel, G.W.F., *Faith and Knowledge*, trans. Walter Cerf and H.S. Harris, (Albany: SUNY Press, 1977) 73. Similarly, Kemp Smith entertains the view that imagination may be the "common root" of intuition and understanding (*A Commentary to Kant's Critique of Pure Reason*, 77), though he develops a different view later in his commentary. Heidegger famously argued for this view as well (*Kant and the Problem of Metaphysics*, trans. Richard Taft, 5th ed. (Bloomington and Indianapolis: Indiana University Press, 1990), 97-99 (§27). For someone who endorses Hegel's interpretation and his appropriation of the Kantian imagination, see Bates, Jennifer Anne, *Hegel's Theory of Imagination* (Albany: SUNY Press, 2004), esp. 3-11. I disagree with the position advanced in Bates' book. I think that Kant offers a much more limited role for the imagination than what Hegel sees in Kant, and, as I shall argue in the following paragraphs, I think there are good philosophical reasons for keeping the imagination and the understanding distinct. For a commentator who is similarly skeptical of the Hegelian account of the relation between reason and imagination in Kant, see Longuenesse, Beatrice, "Hegel and Kant on Judgment," in *Hegel's Critique of Metaphysics*, 192-217, trans. Nicole J. Simek (Cambridge: Cambridge University Press, 2007).

¹⁴⁷ See, e.g., Allison, *Kant's Transcendental Idealism*, 187-189; Allison, *Kant's Transcendental Deduction, An Analytical-Historical Commentary*. Oxford: Oxford University Press, 2015), 256-258; Kemp Smith, *A Commentary to Kant's Critique of Pure Reason*, 264-267; Kitcher, *Kant's Transcendental Psychology*, 153-155; Land, Thomas, "No Other Use than in Judgment? Kant on Concepts and Sensible Synthesis," *Journal of the History of Philosophy* 53, no. 3 (July 2015): 470-471; Longuenesse, *Kant and the Capacity to Judge*, 61-64; Paton, H.J., *Kant's Metaphysics of Experience*, Vol. 1 (London: George Allen & Unwin, 1936), 464-466; Wolff, Robert Paul, *Kant's Theory of Mental Activity* (Cambridge, MA: Harvard University Press, 1963), 75-77.

perception of discrete objects.¹⁴⁸ However, such a synthesis is distinct from what Kant calls bringing a synthesis to concepts (*Synthesis auf Begriffe zu Bringen*), which he attributes to the understanding in explicit contrast to the imagination.¹⁴⁹ A particular difficulty in identifying imagination and the understanding is that Kant speaks of the synthesis of the imagination as “a blind though indispensable function of the soul, without which we would have no cognition at all, but of which we are seldom even conscious,”¹⁵⁰ but contrasts this blindness with the application of concepts by the understanding, and elsewhere argues that such concept application requires consciousness.¹⁵¹ If imagination and the understanding were really two names for the same faculty, then it would become difficult or impossible to distinguish between the blind synthesis of the manifold and the “sighted” (so to speak) synthesis of the understanding. Hence, it seems more prudent in my view to adopt the moderate position of Henry Allison who argues that “imagination has the task of unifying the sensible data in a way that *makes possible* its subsequent conceptualization, without itself *being* a mode of conceptualization.”¹⁵² This has the advantage of articulating the close relation between imagination and understanding while maintaining the important difference between non-conscious and conscious syntheses. (I cannot now address the difficult question of the relationship between synthesis, concepts, and perception, but I will return to it in the final section of this chapter.)

¹⁴⁸ See, e.g., A120n, B150-152.

¹⁴⁹ A78/B104, See also B151-152 where Kant makes a similar distinction between intellectual and imaginative synthesis.

¹⁵⁰ A78/B104.

¹⁵¹ See A103-104, B131-132, B136. See also the quotation in the previous paragraph where Kant says “To think, however, is to unite representations in a consciousness [...]. The unification of representations in a consciousness is judgment” (*Prolegomena* 4:304).

¹⁵² Allison, *Kant’s Transcendental Deduction*, 188.

There are other good philosophical and textual reasons for keeping the understanding and imagination distinct. In the first place, one must reckon with the common discrepancies between the image we have of something and the concept of it, such as Aristotle's example of the image we have of the sun (which we imagine to be one foot in diameter, but know to be much larger) or Descartes' example of the chiliagon (which we clearly conceive to have one thousand sides, but whose one thousand sides we cannot clearly imagine).¹⁵³ There is also the well-known example given by Berkeley, who argued that we have no single idea of a triangle (i.e. no image of it), because any image of a triangle must be either equilateral, scalene, or isosceles. Seemingly under the influence of this latter example, Kant argues in the *Schematism* that "no image of a triangle would ever be adequate to the concept of it. For it would not attain the generality of the concept, which makes this. Valid for all triangles, right or acute, etc., but would always be limited to one part of this sphere"¹⁵⁴ Thus any image of a triangle, any particular representation of it, must have a determinate size and shape. But a concept, precisely because it is a *general* representation, does not have these determinate features. For this reason, any image of a triangle will necessarily be more determined, more particular, and less general than its concept. Conversely, what is true of the concept, because it is more general, should be applicable to all corresponding images. If I prove that the interior angles of any triangle add up to 180 degrees, since this judgment applies

¹⁵³ Descartes, René, *Meditations on First Philosophy*, trans. Donald A. Cress, 3rd ed. (Indianapolis: Hackett, 1993), 47-48

¹⁵⁴ A141/B180. Compare Berkeley, George, *A Treatise Concerning The Principles of Human Knowledge*, ed. Keith Winkler (Indianapolis: Hackett, 1982), Introduction §18; and Locke, John, *An Essay Concerning Human Understanding*, ed. Pieter H. Nidditch (Oxford: Clarendon Press, 1975), IV.vii.9. Henry Allison cites this passage to distinguish Kant's account of concepts as rules in contrast to an imagistic account of concepts (*Kant's Transcendental Deduction*, 257-258).

to *all* triangles, it achieves a generality that goes beyond particular images, which contain incompatible properties between them (i.e. equilateral, isosceles, scalene).

Moreover, once we move beyond two-dimensional constructions like triangles, it is obvious images have the character of being seen from a *point of view*, i.e. from the front, from the back, slightly askew, upside-down, etc.¹⁵⁵ At the same time, we often find it necessary to make judgments about objects that are independent of the point of view from which they are seen. If I judge that a container has a volume of one cubic meter, this judgment makes a claim that is independent of the point of view from which the object is seen, and the truth or falsity of the judgment does not depend on its being seen from a particular angle. Although I may have an image of such a container either before my eyes or in my head, the image is not the true content of the judgment – the concept is. Thus, even though our perceptual field is imagistic and point-of-viewish, our understanding makes judgments that go beyond its imagistic and point-of-viewish character. For such reasons, Kant is motivated to distinguish between a concept (a general representation); a schema (the rule for the production of an image of a concept); and the sensible image that is produced by the schema.¹⁵⁶

What we have considered so far are examples where we have both a concept and an image of an object, but the two do not coincide. One of Kant's crucial insights is that our thinking can follow rules that take us beyond our image-making capacity. Going back

¹⁵⁵ This point is emphasized by Sellars: "apples are not perspectival in character. The concept of an apple is not the concept of a perspectival entity. Apples are seen from a point of view. Apples are imagined from a point of view. A spatial structure is imagined from a point of view. Yet the concept of a spatial structure, e.g., a pyramid, is not the concept of a point-of-viewish object" ("The Role of Imagination in Kant's Theory of Experience," in *Categories: A Colloquium*, ed. Henry W. Johnstone Jr. (State College: Pennsylvania State University, 1978), §29).

¹⁵⁶ Thus in a passage from the Schematism where Kant distinguishes concept, schema, and image, he writes: "The concept of a dog signifies a rule in accordance with which my imagination can specify the shape of a four-footed animal in general, without being restricted to any single particular shape that experience offers me or any possible image that I can exhibit *in concreto*" (B180).

to the *Inaugural Dissertation*, he argued that the concepts of the infinitely small and of the infinitely large are thinkable, but they cannot be “followed up in the concrete and converted into intuition.”¹⁵⁷ When we think about concepts such as these, they do not refer to a definite object but rather merely provide a rule to continually divide or augment a magnitude *ad infinitum*. By the time of the first *Critique* Kant names such concepts “ideas.” Ideas are illusory in the sense that they do not refer to any object of possible experience, and they may deceive one into thinking that they do so refer. But such ideas are nonetheless *thinkable* even though there is no sensible representation – no image – corresponding to them. Thus Kant writes about one of the cosmological ideas that “the absolute whole of appearances is only an idea, since, because we can never project it in an image [*niemals im Bilde entwerfen*], it remains a problem without any solution.”¹⁵⁸ If thinking were limited to what we can imagine, then the problem of dialectical illusion would never arise. There would be no danger of producing ideas that go beyond experience, since we would not be able to think what we could not also imagine, i.e. what belongs to possible experience, even if not actual experience. Consequently, one of the central philosophical problems that catalyzed the *Critique of Pure Reason*, namely the ability for the human mind to go beyond experience and produce equally valid but incompatible arguments, would not arise.

Even though Kant accords an expansive, perhaps even unprecedented,¹⁵⁹ role to the imagination in his account of cognition, there are strong reasons for distinguishing his

¹⁵⁷ *Inaugural Dissertation*, 2:388.

¹⁵⁸ A328/B384.

¹⁵⁹ In the A Deduction Kant claims that no one before him had recognized that “the imagination is a necessary ingredient in perception itself” (A120).

account of cognition from an imagistic one.¹⁶⁰ Imagination has a necessary role in producing sensible images and thus is indispensable for perception itself. But, as the Schematism shows, the imagination is governed by rules which stem from the understanding and stand apart from it. It is thus possible for us to make conceptual judgments that transcend the particularity of images. As we know from the Transcendental Dialectic, it is possible for us to think (i.e. to make judgments and inferences about) things that we cannot imagine. In this way, Kant's account of thinking is much more oriented around judgment than Aristotle's, such that to figure out the structure of the world and our cognition of it, it is necessary to examine the *forms* of judgment rather than the forms of objects.¹⁶¹

Although Aristotle thus uses the form-matter dichotomy in reference to the mind, I have stressed that his usage of these terms is essentially different from Kant's. For this reason, the account of the historical embedding of Kantian hylomorphism given by Constantin Pollok is, in my view, misguided.¹⁶² Pollock focuses narrowly on the role of form and matter in ancient and medieval physics and epistemology. He argues that the Aristotelian picture of form and matter as physical principles are transformed by the medievals into a divine *intellectus archetypus* that creates matter and form, and that this conception is, in turn, transformed by Kant into an *intellectus discursivus* that uses its

¹⁶⁰ Scholars who contrast Kant's account of cognition with an imagistic account of the understanding include Allison, *Kant's Transcendental Deduction*, 188-189; Guyer, *Kant and the Claims of Knowledge*, 439 n. 3; Bennett, *Kant's Analytic*, 141-142.

¹⁶¹ Kant, *Anthropology from a pragmatic point of view*, 7:193. The connection between thinking and judging was emphasized by Kant as far back as his treatise on the *False Subtlety of the Four Syllogistic Figures* in 1762 (2:29).

¹⁶² Pollok, Constantin, *Kant's Theory of Normativity: Exploring the Space of Reason* (Cambridge: Cambridge University Press, 2017), 123-131.

own forms to determine matter.¹⁶³ The shift from an *intellectus archetypus* to an *intellectus discursivus*, however, overstates the similarity between Kant and his predecessors, and at the same time overlooks some important continuities. Kant and Aristotle have different understandings of ‘form,’ ‘matter,’ and even ‘thinking.’ For Kant, the forms of the understanding are conceived as the different ways that distinct representations may be synthesized into a unity, while for Aristotle they are the actualities of sensible objects which are imprinted on the mind. Relatedly, Kant’s account of the forms of the understanding is derived from his account of thinking as judgment, whereas for Aristotle thinking is much more closely bound to imagination. Thus the Kantian forms of thinking are no direct descendent of Aristotle’s. But this leaves open the question of how Kant came to speak and think of forms in this way. To answer this, we ought to consider some indirect connections between Kant and Aristotle.

§2b: The Legacy of *modus cognoscendi*

Marco Sgarbi has argued that there is an indirect connection between Kant and Aristotle’s hylomorphism mediated by early modern Aristotelians like Zabarella and Cavlov (the latter an influential 17th century Königsberger), and prominent non-Aristotelian figures like Crusius, Leibniz, and Kant’s own teacher Martin Knutzen. Sgarbi sees this indirect connection to Kant as rooted in a passage in the *Nicomachean Ethics* where Aristotle talks not about form and matter directly, but about the degrees of accuracy required by different activities:

[W]e must also remember what has been said before and not look for precision in all things, but in each class of things such precision as accords with the subject-

¹⁶³ Pollock, *Kant’s Theory of Normativity*, 127-128.

matter, and so much as is appropriate to the inquiry. For a carpenter and a geometer look for right angles in different ways; the former does so in so far as the right angle is useful for his work, while the latter inquires what it is or what sort of thing it is, for he is a spectator of truth.¹⁶⁴

Thus there may be one thing (the right angle), but two different ways of looking at it (the carpenter's and the geometer's), perhaps involving different methodologies, assumptions, and purposes. Sgarbi shows that early modern Aristotelians developed technical terms to describe examples like these: there is a subject-matter (*res considerata*) and a mode of considering it (*modus considerandi*).¹⁶⁵ This distinction itself is sometimes expressed in terms of matter and form respectively.¹⁶⁶ For Sgarbi, this provides a clue to the Kantian theory of the forms of understanding. The different *modi considerandi* are described as 'forms.' They are, according to Sgarbi, interpreted as subjective. So, in his view, it is this tradition that Kant is drawing on for "a theory of subjectivity of cognition."¹⁶⁷ Nor is Sgarbi the only one to hold this view: a similar account is offered by Constantin Pollok as well, albeit in less detail than and seemingly independently of Sgarbi.¹⁶⁸

But this comparison between Kant's usage of form and a *modus considerandi* is a red herring. For, it is not at all clear that a *modus considerandi* was traditionally thought to be something subjective in the sense in which Kant claims that the forms of intuition or the understanding are subjective, or that the *modus considerandi* plays a similar role to form in the *Critique of Pure Reason* or his other theoretical writings. Let us consider the text from Leibniz that Sgarbi cites as evidence. Here Leibniz uses the distinction in an

¹⁶⁴ Aristotle, *Nicomachean Ethics*, trans. W.D Ross and J.O Urmson, in *The Complete Works of Aristotle*, 1098a25-35. Sgarbi also cites as a parallel passage *Metaphysics*, 995a5-20.

¹⁶⁵ The Latin terminology varies somewhat among authors: sometimes *modus cognoscendi* or *modus concipiendi* is used instead of *modus considerandi*.

¹⁶⁶ Sgarbi, *Kant and Aristotle* 25-28. See also Nuchelmans, Gabriel, *Late-Scholastic and Humanist Theories of the Proposition* (Amsterdam: North Holland Publishing Company, 1980) 59-60.

¹⁶⁷ Sgarbi, Marco, *Kant and Aristotle*, 82.

¹⁶⁸ Pollok, *Kant's Transcendental Hylomorphism*, 144-145.

argument for his well-known thesis that there cannot be two things perfectly alike in nature:

Perfect similitude can occur only in incomplete and abstract notions, where accounts are given of things not in every respect, but only according to a certain mode of consideration (*secundum certum considerandi modum*), just as when we consider shapes by themselves, we ignore the material that actually has the shape. So two triangles may rightfully be considered as similar by geometry, although two material triangles that are similar will never be found.¹⁶⁹

Leibniz is evidently describing a practice of isolating or abstracting certain features of a material object. Two material triangles cannot be perfectly alike, because material objects have various features that differ besides the ones that they have in common. Yet if we abstract the triangularity from the material objects, then they may be deemed to be similar in *that aspect alone*. To Sgarbi's credit, this passage does express a distinction between matter and *modus considerandi*. But the distinction does not correlate to the distinction between form and matter in Kant's account of cognition. The *modus considerandi* in this example quite clearly describes a volitional act of *isolating* or *abstracting* one aspect of a material object. Kant is clear, however, that the forms of cognition are not volitional: as I argued in Chapter Two, we cannot choose to see a material object as spatial and temporal in the way that we can choose to isolate one feature or another of it. Instead, the forms of cognition for Kant are supposed to be *a priori*. They have a necessary validity of all empirical objects because without them nothing could be an object for us. This constitutive aspect of Kantian forms is missing

¹⁶⁹ Leibniz, *Primae Veritates in Opusculis et fragmentis inédits de Leibniz*, ed. Louis Couturat (Paris: F. Alcan, 1903), 519-520. While I follow Leibniz in using the term "material triangle" for the purposes of this example, I am thankful to Daniel Selcer for pointing out that strictly speaking there cannot be any such thing as a "material" triangle since triangles cannot exert force, which Leibniz takes as a criterion of materiality. It also is worth mentioning that Leibniz himself engaged repeatedly with Aristotelian hylomorphism, both adopting it and creatively reinterpreting it. See Garber, Daniel, "Leibniz on Form and Matter," 326-352.

from the Leibnizian example and from Sgarbi's whole account of the *modus considerandi*. For this reason, the connection between form, *modus considerandi*, and the Kantian account of cognition seems to be coincidental.

Furthermore, in the infrequent cases that Kant does use the term *modus considerandi* or its cognates, it is usually to explain how two different sciences may treat the same object, which is perfectly in line with the Leibnizian and Aristotelian uses, but unlike Kant's own account of forms as subjective and necessary conditions of experience. Thus in several *Reflexionen*, he argues that philosophy and mathematics treat the same object, but they differ in the *modus cognoscendi* (i.e. philosophy is discursive, mathematics is intuitive).¹⁷⁰ In the *Wiener Logik*, he says that physiology and psychology treat the same matter, but they differ in their form or their *Art der Behandlung*.¹⁷¹ In the Anthropology, he says that both logic and psychology treat the "I," which shows that "the human 'I' is indeed twofold according to form (manner of representation [*Vorstellungsart*]) but not according to matter (content)."¹⁷² He also contrasts a sensitive and intellectual *modus cognoscendi*, as well as a speculative and practical one.¹⁷³ In one *Reflexion* that Sgarbi cites, Kant does identify form with the *modus cognoscendi*, but here too Kant is differentiating between two different ways of treating the same object:

materia: objects; *forma*: *modus cognoscendi*. Philosophical cognition and the common cognition are not distinguished by their matter but by their form.¹⁷⁴

¹⁷⁰ R4123 (17:425); R5593 (18:243).

¹⁷¹ *Wiener Logik* (24:790).

¹⁷² Anthropology (7:135n).

¹⁷³ R4500 (17:574-475); R2814 (16:525).

¹⁷⁴ R1698, my own translation.

These scattered instances of the contrast between *modus considerandi* and matter hardly reveal a deep influence on Kant. The *modi considerandi* have to do with the different methods and focuses of different disciplines, which we may voluntarily adopt depending on our interests and perspectives.¹⁷⁵ But a Kantian form is not like this at all. Regarding the forms of intuition and understanding, it is not up to us to intuit objects spatio-temporally or to think of objects categorically. One of Kant's key claims is that these forms are indispensable for any act of cognition. They are not choices that we make to isolate, abstract, or focus on one aspect of an object rather than others, nor are they akin to the different methodologies or techniques of a science that one may adopt at will. Hence, the similarity between the early modern conception of *modus considerandi* and a Kantian form (as that term is used in the *Critique*) is tendentious.

§2c: The Legacy of Aristotelian Syllogistic

Even if looking at the legacy of the concept of *modus cognoscendi* sheds little light on Kant's conception of the forms of understanding, there is another Aristotelian legacy that is much closer to the mark. For Kant identifies thinking with judging, and his account of judging is indebted to the broad Aristotelian logical tradition. If we want to gain some insight into what Kant means by the forms of understanding, it would make sense to look into the Aristotelian logical works. But there are two immediate peculiarities: (1) Aristotle himself had much to say about syllogisms, but little to say about judgments; (2) the form-matter distinction plays essentially no explanatory role in

¹⁷⁵ One counter example that supports Sgarbi's claim is *Logik Philippi* §12 (24:314), where Kant twice refers to the form of cognition as a *modus cognoscendi*.

Aristotle's logical treatises.¹⁷⁶ Thus as John MacFarlane remarks about Aristotle, “surprisingly, the father of both formal logic and hylomorphism was not the father of logical hylomorphism.”¹⁷⁷ As MacFarlane shows and others have corroborated, it is only in the ensuing Aristotelian tradition that the form-matter distinction is transferred from the domain of physics and psychology to the domain of logic.¹⁷⁸ The earliest attestation of this comes from Alexander of Aphrodisias (c. 200 CE), who, in his commentary on Aristotle's *Prior Analytics*, uses the form-matter distinction in explaining the figures of a syllogism: “The figures are like a sort of common matrix [τύπων... τινι κοινῷ]: by fitting matter into them, it is possible to impress the same form in different sorts of matter. For just as things fitted into one and the same matrix differ not in form and figure but in matter, so it is with the syllogistic figures.”¹⁷⁹ Alexander is clearly invoking the kind of artisanal metaphor that Aristotle himself used to originally clarify the form-matter distinction. Alexander extends this artisanal metaphor, and the hylomorphic metaphysics that goes along with it, to describe the logical operation of formulating a syllogism. Just as a sculptor imposes a certain shape (form) on a lump of bronze (matter), so too can the figures (forms) of a syllogism be imposed on various premises (matters).

¹⁷⁶ There are only two passages where Aristotle uses the form-matter dichotomy in reference to logic, although these are rather anomalous. See Dutilh Novaes, Catarina, “Form and Matter in Later Latin Medieval Logic: The Cases of *Supposito* and *Consequentia*,” 340. The two instances are *Physics* 195a18-19 and *Metaphysics* 1013b19-20, where Aristotle refers to premises of a deduction as the ‘matter’ to its conclusion.

¹⁷⁷ MacFarlane, John, “What Does it Mean to Say that Logic is Formal?” 255.

¹⁷⁸ See MacFarlane, John, “What Does it Mean to Say that Logic is Formal?”, 255-294. Barnes, Jonathan, “Logical Form and Logical Matter,” in *Logica, Mente, e Persona*, ed. Antonina Alberti (Firenze: Leo. S. Olschki Editore, 1990) 39-43. Dutilh Novaes, Catarina, “Logical Hylomorphism and the Demarcation of Logical Constants” *Synthese* 185, no. 3 (April 2012): 398-405. A useful discussion of formal and material truth in Descartes can be found in Nuchelmans, *Judgment and Proposition from Descartes to Kant* (Amsterdam: North Holland Publishing Company, 1983), 50-53.

¹⁷⁹ Alexander of Aphrodisias, *On Aristotle's Prior Analytics 1.1-7*, trans. Jonathan Barnes, Susanne Bozien, Kevin Flannery S.J., Katerina Ierodiakonou (London/New York: Bloomsbury, 1991) 48.

After Alexander of Aphrodisias, the hylomorphic conception of logic appears sporadically among Greek, Latin, and Arabic texts up until the 13th century, at which point there was, according to Dutilh Novaes, “something of an explosion of uses of hylomorphism in logic.”¹⁸⁰ This occurs particularly in considering how consequences may follow from premises in a syllogism. Some consequences are said to be ‘formal’ while others are ‘material,’ but this distinction is used in various and sometimes confusing ways.¹⁸¹ Nevertheless, Dutilh Novaes finds a “straight line” from this medieval logical hylomorphism into the early modern and even contemporary theories of logic: “ultimately, our own modern uses of the term ‘formal’ with respect to logic are to be traced back to the later medieval application of the (originally metaphysical) form vs. matter distinction to the notion of consequence.”¹⁸² Although the distinction is somewhat confused in the medieval period, there are clearer examples as one gets nearer to Kant.

In the Port-Royal logic, for instance, the form-matter distinction is deployed to analyze the truth or falsity of a syllogism. A syllogism could be defective either in its matter, meaning that one of its premises is false or unreasonable, or it could be defective in its form, meaning that it employs a fallacious mode of inference. An example of the latter is: “If we are mistaken about this, we are mistaken about everything.”¹⁸³ This is a formally defective argument because one cannot infer something universal (“we are mistaken about everything”) from a particular (“we are mistaken about this”). Logically speaking, there is no difference between this claim and one like “If this dog is brown,

¹⁸⁰ Dutilh Novaes, “Form and Matter in Later Latin Medieval Logic,” 345.

¹⁸¹ See Dutilh Novaes, “Form and Matter in Later Latin Medieval Logic,” 346-355; Dutilh Novaes, “Logical Hylomorphism and the Demarcation of Logical Constants,” 403-405; Nuchelmans, *Late-Scholastic and Humanist Theories of the Proposition*, 55-70.

¹⁸² Dutilh Novaes, “Form and Matter in Later Latin Medieval Logic,” 354-355.

¹⁸³ Arnauld, Antoine and Paul Nicole, *Logic or the Art of Thinking*, trans. Jill Vance Buroker (Cambridge: Cambridge University Press, 1996), 169.

then all dogs are brown,” which is an obvious example of false reasoning. Commenting on such fallacious arguments, the Port-Royal authors write that such inferences “are considered invalid in form only when a faulty inference is drawn from a major premise, whether it is true or false, reasonable or unreasonable.”¹⁸⁴ A materially defective argument, on the other hand, is one with correct reasoning but that is based upon false premises, for example:

All humans are donkeys.

A donkey is sitting.

Therefore a human is sitting.

Although this syllogism is formally correct (the conclusions do follow from the premises), the major premise is false, and this renders the conclusion false as well. Hence Arnaud and Nicole write that “the falsity of the major premise in syllogisms of this kind concerns the matter more than the form.”¹⁸⁵ Thus the form-matter distinction was used to differentiate two ways that a syllogism may be false: formally (by an invalid mode of inference) or materially (by one or more false premises).

The same distinction between the form and matter of a syllogism can be found in the text that Kant used as the basis for his lectures on logic, Meier’s *Auszug aus der Vernunftlehre*:

The matter of a syllogism (*ratiocinii materia*) consists of its premises, but its form (*ratiocinii forma*) consists of the drawing of the conclusion from the premises. A valid inference (*ratiocinium verum*) must be valid in its matter as well as its form.

¹⁸⁴ *ibid.*

¹⁸⁵ *ibid.*

When either the matter or the form is false, or both, then it is a false inference
(*ratio cinium falsum*).¹⁸⁶

Kant repeats the same distinction in his notes to Meier's text: "The argument can be right (form), but deduced from false grounds (matter)."¹⁸⁷ Unsurprisingly, Kant employs similar language when he elsewhere discusses syllogistic.¹⁸⁸

All that has to do with the form and matter of syllogisms, not judgments. And, as I've argued, the decisive feature of Kantian logic is the pride of place that he gives to judgment. In the *Critique of Pure Reason* Kant does not even discuss syllogisms until the Transcendental Logic, and, even then, almost exclusively in regards to their ability to generate rational illusions.¹⁸⁹ Nevertheless, once the form-matter dichotomy has left its original field of physics and entered the domain of logic so that it became no longer just an explanatory tool for change but also for syllogisms, it is no great leap to transfer the dichotomy from syllogisms to judgments.

Discussions of the form and matter of a judgment are rather sparse prior to Kant. Some medieval logicians distinguished between the formal and material significate of a judgment, which often boiled down to a distinction between the subject and predicate of the judgment, though there were more complex usages as well.¹⁹⁰ Thus in the judgment "Peter is white," "Peter" is the material significate of the judgment, while "white" is the formal significate. Such a conception of judgment is evidently a logical mirror of

¹⁸⁶ Meier, *Auszug aus der Vernunftlehre* (Halle, 1752) §§359-360.

https://archive.org/details/bub_gb_CkUMAAAYAAJ. The same account of a syllogism defective in form can be found in Meier, *Auszug*, §402.

¹⁸⁷ R3210 (16:713).

¹⁸⁸ *False Subtlety* (2:53-54), R3427 (16:829), R3999 (17:381), *Jaesche Logik* (9:121). See also R2131 (16:247), which deals with the relation of truth and the logical form of a cognition.

¹⁸⁹ A303/B359 ff. In the *Prolegomena* he even suggests a kind of temporal sequence to the discovery of the correlation between judgments and categories, and then syllogisms and ideas (4:304).

¹⁹⁰ See Nuchelmans, *Late-Scholastic and Humanistic Theories of the Proposition*, 56 ff.

Aristotelianhylomorphism: just as one might “add” the shape of a human to a lump of bronze in the act of sculpting, the predicate (form) “white” is added to the underlying matter, “Peter.”

But there is a disanalogy between Aristotelian logic and metaphysics in such examples, which goes back to the fact that Aristotle gave two different major accounts of “substance.” In his physical and metaphysical works, substance is generally described as a composite of form and matter, with greater emphasis given to form as definitive of *what* a thing is.¹⁹¹ But in his logical writings, a substance is considered simply to be a bearer of accidents (or predicates).¹⁹² Once the language of form and matter gets transposed into the field of logic, discrepancies can arise between the two semantic fields. In a non-logical context, Peter would ordinarily count as a substance, a this-such, i.e. a form, while “white” would be a mere accident attaching to him. But when Peter is made into the subject of a judgment, he is logically treated as the *matter* of the judgment, while “white” is treated as his *form*. If the construction of a judgment is thus a kind of analog for the making of a material object, the same hylomorphic terminology may be employed in incongruous ways depending on whether one is speaking logically or metaphysically.

This tension is essentially absent from Kant because he retains the logical usage, but does not have a hylomorphic account of natural objects. For Kant, both the subject and predicate belong to the matter or content of the judgment, whereas the form of a judgment consists in *how* the subject and predicate are related to one another, specifically

¹⁹¹ E.g. *Metaphysics* VII.17 (1041b) “Therefore what we seek is the cause, i.e. the form, by reason of which the matter is some definite thing; and this is the substance of the thing.”

¹⁹² See, e.g. *Categories*, Chapter V. For the purposes of this dissertation, I shall overlook Aristotle's distinction between primary and secondary substances, which is not relevant to my argument here.

in regard to the four ‘titles’ outlined in the *Analytic of Concepts*.¹⁹³ If Kant were to analyze the judgment “Peter is white,” he would see both “Peter” and “white” as belonging to the matter or content of the judgment. The form of the judgment is determined according to the four titles within the table of judgment: quantity, quality, relation, and mode. In regards to the quantity, the judgment is singular (the subject, Peter, is numerically one and not “some” or “all” of class). In regards to the quality, it is affirmative (it ascribes a definite predicate, white, to the subject instead of either denying that predicate or ascribing an indefinite predicate (non-white)). In regards to the relation, it is a categorical judgment (it ascribes a predicate to a subject rather than expressing an “if...then” or “either...or” relation). Lastly, in regards to its modality, it is an assertoric judgment (it asserts that something *is* the case, rather than that it *may* or *must* be the case). Thus, for Kant “Peter is white” is a singular, affirmative, categorical, assertoric judgment. Peter and white belong to the matter of the judgment, while the fourfold form is indicated by the presence or absence of various logical indicators (“all,” “some,” “is,” “is not,” etc.).

In talking about the ‘forms’ of judgment (or of a syllogism, or of the understanding) there is a risk of treating the word ‘form’ as an equivalent to something like ‘kind’ or ‘variety.’ Consider the way that Longuenesse characterizes Kant’s notion of a logical form of judgment in contrast to contemporary usage:

One needs, however, to be quite clear about what Kant means by the expression ‘logical form of judgment.’ Kant’s notion of logical form is not that of modern logic, in which the form refers to the logical constants and the rules of composition and derivation adopted in a given calculus [...]. But for Kant ‘logical form’ refers to something different, namely the universal rules of discursive thought. He understands logic much in the same way as the Port-Royal logicians

¹⁹³ A70/B95. See also *Jäsche Logik* §20 (9:102).

did, as the “reflection that men have made on the... operations of their mind.” What Kant claims to display in his table of the logical forms of judgments are forms of mental activities.¹⁹⁴

Longuenesse asserts quite clearly that Kant’s concept of logical form is different from that of modern logicians. But when it comes to explaining *how* it differs, her account becomes less clear. It is true that modern logic is much more anti-psychologistic than Kant’s. That is, modern logic studies the rules of inference, rules which are supposed to be valid regardless of whether and how one thinks of them. For Kant, logic is much more closely connected to thinking, judging, and other related mental activities.¹⁹⁵ As she says, his notion of logical form refers to “the universal rules of discursive thought.” However, to say that Kant’s table of the “logical forms of judgments” displays “forms of mental activities” is hardly explanatory. For it substitutes the question “what is a logical *form* of judgment?” with the question “what is a *form* of mental activity?” The second question does not get us any closer to discovering why Kant thinks of judgment (or mental activities) in terms of a form-matter dichotomy.

Longuenesse’s reference to the Port-Royal Logic in the passage above does offer an important clue for thinking about the form and matter of a judgment. But it is important to note that the uses of ‘form’ in the Port-Royal logic are various and not systematic. The three most common uses of the term in the text have little resemblance to Kant’s usage. Usually, when one finds the term “form” and its cognates in the Port-Royal Logic it is most often used as a verb with the sense of “make” or “produce.” For example, the authors describe the act of conceiving as “when we represent to ourselves a sun, an earth, a tree, a circle, a square, thought, and being without forming any explicit judgment

¹⁹⁴ Longuenesse, *Kant and the Capacity to Judge*, 5.

¹⁹⁵ He stands out from both his predecessors and successors in distinguishing transcendental logic as a branch of logic, which forms a key part of his position as I will discuss in Section III below.

about them [*sans en former aucun jugement exprès*].”¹⁹⁶ Here “forming” a judgment is obviously synonymous with “making” a judgment or simply “judging.” There are also times when the noun “form” is used as an equivalent of “manner” or “way.” Thus the sentence immediately after the previous quotation reads: “The form [*la forme*] by which we represent these things is called an *idea*.”¹⁹⁷ In other words, when we conceive of a sun, an earth, a tree, etc., the *manner* or *way* that we represent these things is called an “idea.” There are also frequent mentions of form and (more commonly) matter in the context of physics, where matter is that of which a body is composed and form is the essence of the thing.¹⁹⁸ None of these three uses has much bearing upon what Kant means by logical form.

But there are instances in the Port-Royal Logic where form and matter are used in a manner akin to Kant. The Port-Royal authors note that propositions are distinguished by their quantity (either universal or particular) and by their quality (either affirmative or negative) and about the latter they say: “The affirmation or negation, which depends on the verb and is considered the form of the proposition [*la forme de la proposition*], is called its quality.”¹⁹⁹ Exactly who “regards” this as the form of the proposition is left unsaid by the authors. Their use of this term is not further elaborated or motivated. The authors also designate the content of the proposition as its matter: “propositions are further classified by their content [*selon la matière*] as true or false.”²⁰⁰ This is akin to the

¹⁹⁶ Arnauld and Nicole, *Logic or the Art of Thinking*, 23. The French text comes from Arnauld, Antoine and Paul Nicole, *Logique ou l’art de penser*, ed. Charles Jourdain (Gallimard, 1992).

¹⁹⁷ Arnauld and Nicole, *Logic or the Art of Thinking*, 23.

¹⁹⁸ *ibid.*, 19-20, 126, 187-188, 191.

¹⁹⁹ *ibid.*, 84. See also *ibid.*, 95. A similar usage is also found in the authors’ discussion of complex propositions, *ibid.*, 87.

²⁰⁰ *ibid.*, 84.

notion of a materially false syllogism, but here the notion of material falsehood is applied to the proposition itself rather than the proposition *qua* premise of a syllogism.

What we see in the Port-Royal Logic is thus a slight, and, in comparison to Kant, incomplete transference of the language of form and matter from the syllogism to the proposition. In the Port-Royal logic, form designates *only* the quality of the judgment. It does not designate the quantity (for which the authors give no technical term equivalent to ‘form’ for quality), much less the other two ‘moments’ of judgment that Kant identifies. The conception of matter is also slightly different. Matter in the Port-Royal logic evidently refers to the content of the judgment taken as a whole, such that it can be evaluated as true or false. In contrast, Kant sees the matter of a judgment as consisting in its individual terms or the “given representations that are combined in the unity of consciousness in a judgment.”²⁰¹

It is not within the scope of this dissertation to trace the entire lineage of form and matter in the tradition of logic between Aristotle and Kant and to fill in all the gaps.²⁰² It is enough to conclude from this a few general points:

1. Form and matter were not originally technical terms in Aristotle’s logic.
2. It is only after Aristotle (as early as the 2nd century AD with Alexander of Aphrodisias) that they are applied to the syllogism.
3. With Alexander of Aphrodisias’ theory of the syllogism, the new usage of form and matter do not serve to explain the nature of change, either within the natural world or in the relation between thinking and ideas. Instead,

²⁰¹ *Jäsche Logik* §19 (9:101).

²⁰² Some notable scholarly works that have contributed to this include MacFarlane, “What Does it Mean to Say that Logic is Formal?” 254-294; Dutilh Novaes, “Form and Matter in Medieval Logic,” 339-364; Marco Sgarbi, *Kant and Aristotle: Epistemology, Logic, and Method* 19-77.

sylogistic form is thought of as a kind of “matrix” or “type” (τύπος), equivalent to the syllogistic figure, into which a variety of matters, or premisses, may be inserted.

4. In the medieval and early modern times, logicians (including Kant) differentiated between the form and matter of a syllogism to illustrate two ways that it may be correct or incorrect.
5. By the time of the Port-Royal Logic we begin to see hylomorphic language used to analyze the features of a proposition, though not as extensively as one finds in Kant.

§3: The Metaphysical Deduction

The first chapter of the *Analytic of Concepts* is titled “On the Clue to the Discovery of all Pure Concepts of the Understanding.” Later, in the B Deduction, Kant refers back to this chapter as the “metaphysical deduction,”²⁰³ which obviously suggests a parallel between the metaphysical and transcendental expositions of the *Aesthetic*. In the *Aesthetic*, Kant explains the term ‘metaphysical exposition’: “I understand by *exposition* (*expositio*) the distinct (even if not complete) representation of that which belongs to a concept; but the exposition is *metaphysical* when it contains that which exhibits the concept as *given a priori*.”²⁰⁴ Just as the *Aesthetic* tried to demonstrate that intuition has certain *a priori* forms, this portion of the *Analytic* tries to show that the understanding also has certain *a priori* forms. But the metaphysical deduction only accomplishes this in a very preliminary way. In the metaphysical deduction, Kant gives an overview of his

²⁰³ B159.

²⁰⁴ B38.

theory of concepts and judgments and *asserts* (though barely *argues*) that judgments rest upon certain *a priori* concepts, which he calls “categories.” It is a decisive, but unfortunately terse account. Many of the fundamental ambiguities and disputes concerning the categories and Kant’s theory of judgment stem from the brevity of the metaphysical deduction. Almost every aspect of it contains some controversy, and we can address only the most pertinent ones here.

One of the most important innovations of the *Critique of Pure Reason* is to elevate judgment to a preeminent place among the various intellectual activities. This elevation of judgment is something unique to Kant’s critical period. As we saw in Chapter 1, Kant elaborated a two-faculty theory of the mind in the *Inaugural Dissertation*, but his distinction there was based upon demonstrating that there are some representations that are produced by the mind that cannot be “followed up” in intuition, particularly the representation of something infinitely large or infinitely small. But these representations described in the *Inaugural Dissertation* correspond rather to what Kant will call “ideas” in the transcendental dialectic, i.e. representations that can never be encountered in the field of possible experience, and which correspond rather to a faculty that Kant calls “reason” instead of “understanding.”

Prior to Kant, a lodestar of early modern epistemology was the attempt to discover certain perceptions or ideas whose clarity and distinctness are so undeniable that they can serve as the basis for other knowledge. Consider what Locke has to say about the perception of identity and diversity: “this [perception] is so absolutely necessary, that without it there could be no knowledge, no reasoning, no imagination, no distinct

thoughts at all.”²⁰⁵ Or consider Descartes’ efforts which he compares to Archimedes: “Archimedes sought but one firm and immovable point in order to move the entire earth from one place to another. Just so great things are also to be hoped for if I succeed in finding just one thing, however slight, that is certain and unshaken.”²⁰⁶ Though Descartes and Locke differ widely in many respects, what they share in common is a concern to achieve certitude about some particular *concepts* or *ideas*. Kant himself was enmeshed in such a project in some of his pre-critical works, where he sought to base all knowledge upon unanalyzable concepts, which, precisely because they were unanalyzable, would form the basis for all the more complex concepts.²⁰⁷ But in the *Critique of Pure Reason*, Kant sidesteps this entire endeavor by turning his attention away from the concepts themselves, and towards the way that concepts are *used*, namely in a judgment.²⁰⁸ He does this to such an extent that he even gives a novel *priority* to judgments over concepts.²⁰⁹ Even if the particular concepts used in a judgment (the matter) are variable and uncertain, the way that the concepts are related in the judgment (the form) may still be fixed and certain.

The shift from concept to judgment occurs in a brief, but crucial section entitled “On the logical use of the understanding in general,” which deserves a close exegesis.

Kant begins by noting that

²⁰⁵ Locke, *Essay*, IV.1.4.

²⁰⁶ Descartes, *Meditations*, 17.

²⁰⁷ Kant, *Inquiry*, §3 (2:281).

²⁰⁸ I am here indebted to the discussion of Pippin in *Kant’s Theory of Form*, 104-108.

²⁰⁹ Thus Longuenesse points out that “the definition [of judgment] given in section 19 of the Transcendental Deduction does not presuppose a plurality of already determined ideas that could be combined into judgments when they are compared. Instead, it presupposes an indeterminate manifold of representations, which the judgment must then bring to one and the same ‘objective unity of apperception’” (Longuenesse, *Kant and the Capacity to Judge*, 74). Longuenesse contrasts this with the account of judgment in the Port-Royal logic, where judgment is quite clearly something that occurs only *after* certain representations are formulated into concepts.

the understanding has been explained above only negatively, as a non-sensible faculty of cognition. Now we cannot partake of intuition independently of sensibility. The understanding is therefore not a faculty of intuition. But besides intuition there is no other kind of cognition than through concepts. Thus the cognition of every, at least human, understanding is a cognition through concepts, not intuitive but discursive.²¹⁰

Here Kant appeals to so many idiosyncratic dichotomies that one may worry that his conclusion that the understanding is discursive is due to some sort of sleight of hand. But it is helpful to reduce the dichotomies to two: the singular and the general. To distinguish mental faculties is not straightforward, since one cannot place them side-by-side, so to speak, and contrast their properties. Instead, the most expedient way to distinguish them is to consider the different kinds of representations that they produce. For, we would have no reason to posit different kinds of mental faculties unless we recognized that our mind deals with distinct kinds of representations. In this vein, Kant evidently sees intuitions as singular and immediate²¹¹ representations, whereas concepts are general and discursive (or mediate) representations. The clearest statement of this is the *Stufenleiter* passage: “A perception that refers to the subject as a modification of its states is a sensation (*sensatio*); an objective perception is a cognition (*cognitio*). The latter is either an intuition or a concept (*intuitus vel conceptus*). The former is immediately related to the object and singular; the latter is mediate, by means of a mark [*Merkmal*], which can be common to several things.”²¹² Kant’s remarks on the immediacy of intuition and the

²¹⁰ A68/B92-93.

²¹¹ Kant repeatedly associates intuitions with immediacy, but it is not at all clear what he means by ‘immediate.’ When Kant says at A19/B33 that “all thought, whether straightaway [*geradezu*] (*directe*) or through a detour [*im Umschweife*] (*indirecte*), must ultimately be related to intuitions...” the normally omniscient Vaihinger twice remarks that this distinction is not very clear (*Kommentar zu Kants Kritik der Reinen Vernunft*, vol. 2, 24).

²¹² A320/B377. There are numerous other passages that corroborate one or more of these characteristics, e.g. A19/B33; A68-69/B93-94; A106; A713/B741; *Prolegomena* §8 (4:281-282); *Anthropology* (7:156). The clearest place where Kant contrasts all of them together is in the *Jäsche Logik*: “an intuition is a singular representation (*repraesentatio singularis*), a concept a universal (*repraesentatio per notas*)”

immediate relation to an object are vague and subject to controversy. There is a debate about whether immediacy is the decisive feature of intuitions or singularity, but to address this would go beyond the scope of this dissertation.²¹³ Kant's assertions that intuition relates *immediately* to an object raise questions about his views on realism and whether or not intuitions are some sort of intermediary between the mind and object – these questions we will take up in the next chapter. Kant's famous claim that intuitions without concepts are blind (along with some of his ensuing arguments in support of that, particularly in the transcendental deduction) also complicates any attempt to describe intuitions independently of the synthetic activity of the understanding. For now, we must leave these difficulties concerning intuition unresolved in order to examine more closely the nature of concepts and judgments.

The contrast between singular and general representations, and the assignment of them to different faculties of the mind is not at all new with Kant. What is new is his claim that general representations have meaning only in the context of a judgment:

All intuitions, as sensible, rest on affections, concepts therefore on functions. By a function, however, I understand the unity of the action of ordering different representations under a common one. Concepts are therefore grounded on the spontaneity of thinking, as sensible intuitions are grounded on the receptivity of impressions. Now the understanding can make no other use of these concepts than

communes) or reflected representation (*repraesentatio discursiva*)” (9:91). Kant often explains the discursivity of the understanding through the fact that it deals with general representations, e.g. *One A Recently Prominent Tone* (8:400n), *Jäsche Logik* (9:58), R2288 (16:300).

²¹³ For the origins of this controversy, see the three essays by Hintikka, Parsons, and Thomson reprinted in *Kant's Philosophy of Mathematics: Modern Essays*, ed. Carl J. Posy. Dordrecht: Kluwer, 1992. Hintikka argues for the primacy of the criterion of singularity; Parsons and Thomson for the criterion of immediacy. See also Falkenstein (*Kant's Intuitionism*, 31-32 & 42-43), who argues not only that the immediacy criterion is primary but that the singularity criterion is inconsistent with it. Allison (*Kant's Transcendental Idealism*, 80-81) argues that the immediacy criterion is primary and the singularity criterion derives from it. The problem of what, if anything, is truly immediate will naturally remain a problem for subsequent German Idealists, notably Hegel's dialectical account of the sense-certainty at the beginning of the *Phenomenology of Spirit*. But this lies beyond the scope of this dissertation.

that of judging by means of them.²¹⁴

These dense sentences are some of the most important in the *Critique*, but the actual presentation of his argument is rather convoluted and strained. It revolves around a distinction, which he takes to be mutually exclusive and exhaustive, between receptivity and spontaneity. Thus, because he had defined intuitions as receptive, i.e. they “rest on affections,” concepts must result from spontaneity, i.e. they “rest on functions.” Stated simply as such, the argument is hardly convincing. For there is no obvious reason to presume that the intuition cannot be spontaneous, nor that the understanding cannot be receptive. But Kant’s claim makes more sense if we see him as offering a kind of functional classification of mental activities. We could thus imagine him saying something like this: “I believe that spontaneity and receptivity are two distinct and yet fundamental activities of the mind and that there are two fundamentally different kinds of representations in the mind: the general and the singular. The representations that we receive seem to be singular. Let’s call these representations ‘intuitions’ and the faculty that deals with them we’ll call ‘intuition,’ since this approximately lines up with what other people have called these things. Similarly, I want to argue that the representations that are produced from spontaneity, rather than receptivity, are general. And I’ll call them ‘concepts,’ and the faculty which deals with them ‘the understanding,’ since this also approximately accords with traditional usage.” Such an imagined explanation ought to make clear what Kant’s actual assumptions are at this point in the text, as well as what inferences he is making. Even on this account he still has to prove that general

²¹⁴ A68/B93. Kant first introduces the contrast between intuition *qua* receptive and the understanding *qua* spontaneous at A51/B75.

representations are produced through spontaneity, which is precisely what he tries to do in the ensuing passage.

Kant calls the spontaneous activity of the mind a ‘function’ (*Funktion*). Scholars have noted two important meanings of this term before Kant, a biological and a mathematical.²¹⁵ In a biological context, “function” refers to the activity or work performed by a particular organ. Thus the function of the lungs is to inhale and exhale air. By extension, some authors would also speak of certain “functions of the mind” or “functions the soul,” and in this way ‘function’ denoted anything that the mind or body would *do*. (It is worth noting that the Latin *functio* derives from the verb *fungor*, meaning “to do”). Alternatively, in a mathematical context, ‘function’ came to mean a relation of dependency between different variables.²¹⁶ Thus an equation like $y = 2x$ expresses a relation where the value of y is dependent upon the value of x , such that y will always be twice the value of x . If x increases or decreases by a determinate number, y will correspondingly increase or decrease by twice as much.

Kant’s use of the term ‘function’ obviously embraces both of these senses, at least in a rough manner. In the biological sense, a function is something that the understanding *does*, i.e. it involves uniting or ordering representations. In the mathematical sense, a

²¹⁵ The most detailed discussion of this distinction is found in Schulthess, Peter, *Relation und Funktion* (Berlin and New York: Walter de Gruyter, 1981) 219-233. Subsequent discussions are almost entirely reliant upon him, e.g. Longuenesse, “The Divisions of the Transcendental Logic and the Leading Thread,” in *Immanuel Kant: Kritik der Reinen Vernunft*, ed. Georg Mohr and Marcus Willaschek (Berlin: Akademie Verlag, 1998), 139-140; and Allison, *Kant’s Transcendental Deduction*, 168-169. Prior to Schulthess, de Vleeschauwer mentions a mathematical and ‘psychological’ sense of function, but does not investigate the latter and dismisses it as irrelevant to Kant. For his account of the mathematical sense, see note below.

²¹⁶ “Der grundlegende Gedanke der Funktion ist der der *Relation*, die eine Dependenz ausdrückt” (Schulthess, *Relation und Funktion*, 231). Schulthess argues that the mathematical meaning too is historically derived from the biological meaning of function, although it became a term of art that stands independent of biology. See also de Vleeschauwer : “Le terme « fonction » est emprunté au vocabulaire mathématique [...]. En mathématique, il signifie la loi d’une opération consistant à mettre en relation des grandeurs” (de Vleeschauwer, H.J., *La déduction transcendantale dans l’œuvre de Kant*, vol. 1 (Antwerp: De Sikkel, 1934; repr., New York and London: Garland Publishing, 1976) 36).

function involves a relation between disparate terms, i.e. it relates representations as being under a common representation. Kant defines a function as “the unity of the action of ordering different representations under a common one.”²¹⁷ His use of the term ‘ordering’ (*ordnen*) hearkens back to his earlier definition of form in the Transcendental Aesthetic as “that which allows the manifold of appearance to be ordered [*geordnet*] in certain relations.”²¹⁸ As we saw in Chapter One, there is a close connection between order and form for Kant going back to the *Inaugural Dissertation*.²¹⁹ But the ordering of a function of the understanding is distinct from a spatio-temporal ordering of things alongside of, or before or after one another, but rather a classification of things as subordinate or superordinate to one another.

These connections to earlier uses of the term function only get us so far. Kant’s definition of “function” appears pleonastic. He does not define it simply as “the action of ordering different representations under a common one” but rather as “the unity” (*Einheit*) of that action. Why the *unity* of the action instead of just the *action*? The question is more difficult to answer due to the fact that Kant in the same section refers twice to “the functions of unity” (*Funktionen der Einheit*) and suggests that functions are what *produce* a unity.²²⁰ So is the expression “function of unity” just a pleonasm since a function is supposed to be the unity of an action? Or does a “function of unity” indicate something above and beyond a mere “function”? There are two overarching

²¹⁷ A68/B93.

²¹⁸ A20/B34.

²¹⁹ See Chapter One, Section 3 of this dissertation. See also R683 (15:304), R4629 (17:614); R4631 (17:615)

²²⁰ A69/B94,

interpretations that answer these questions, as distinguished by Johannes Haag: an attributive and a resultative interpretation.²²¹

According to the attributive interpretation, as propounded by Michael Wolff, a single action may comprise several different “action-units” which are united in the broader action. For example, the action of bicycling involves several different action-units like pedaling, steering, balancing, navigating, etc.²²² The function of bicycling is a unity of all these action-units, each of which contributes to the overall activity. So when Kant says that a function is the “unity of the action...” he’s referring to the fact that all the different action-units are attributed to one activity. In the same way, the action of judging for Kant would involve determining the quantity, quality, relation, and modality in the terms of the judgment.

By contrast, according to the resultative interpretation, the unity of a function is something that *results from* the function. Haag notes that a *prima facie* difficulty with this view is that although Kant does describe a function as producing a kind of unity, he defines a function as a unity itself: the “unity of the action...”²²³ Hence the interpretation would result in a seemingly convoluted two-step process whereby an activity produces a first unity (i.e. function), which is also an activity that also produces a second (yet unspecified) unity. The fact that this picture results in two different unities, which Kant himself does not readily acknowledge or differentiate, suggests that this interpretation rests upon some sort of misreading.

²²¹ Haag, Johannes, “Funktion” in *Kant-Lexicon*, 654.

²²² I use ‘action-units’ as translation of what Michael Wolff calls *Handlungseinheiten*, and which he characterizes as “keine zeitlich lokalisierbaren Vorgänge” (*Die Vollständigkeit der kantischen Urteilstafel* (Frankfurt am Main: Klostermann, 1995), 22). The example of bicycling is also Wolff’s.

²²³ Haag, “Funktion,” 654.

But the picture becomes more clear as the details are filled in. In the interpretation of Dieter Henrich, whose interpretation is roughly a resultative one, a manifold is first given to the subject in intuition and combined according to certain processes. For Henrich, in order to carry out such a combination the subject must be a unity: it must be able to combine the manifold representations in *one* consciousness: “every thought is related to the subject such that it can be explicitly thought by the thinking subject as its own.”²²⁴ But the subject is not conscious of its own unity until it has actually carried out such a synthesis: “If the subject is the agent of combination it can have no consciousness of self without being conscious of itself qua agent.”²²⁵ Thus the unity of the subject is both *presupposed by* and *a result of* the processes of combination.

Henrich’s interpretation is highly nuanced and does not fit neatly into Haag’s account of a resultative interpretation (even though it is the first example Haag cites). For Henrich, synthesis begins with the implicit unity of the subject. A manifold is given, and the subject combines the manifold according to certain functions. These functions both turn the manifold into something of which we are conscious, i.e. thoughts, and they make the subject conscious of itself, i.e. of its own — now explicit — unity, which, when implicit, had served as the condition for the combination of the manifold. Thus there is an initial and resultative unity, but neither of these are equivalent to the functions of the understanding, which Henrich interprets as acts that presuppose and result in unities. This means that Henrich’s view strays from the strict letter of Kant’s definition of a function, which is “the unity of the action of ordering different representations under a common

²²⁴ Henrich, Dieter, “Identity and Objectivity,” in *The Unity of Reason: Essays on Kant’s Philosophy*, ed. Richard L. Velkley, trans. Jeffrey Edwards, Louis Hunt, Manfred Kuehn, and Guenter Zoeller (Cambridge, MA: Harvard University Press, 1994), 166. Henrich is clearly alluding to §16 of the Transcendental Deduction, B131 ff.

²²⁵ Henrich, “Identity and Objectivity,” 169.

one.”²²⁶ Nor, for that matter, does Kant make any reference to the unity of self-consciousness when he first defines a function. But, as we shall see in more detail in Chapter Five, Henrich’s position is closer to the truth. For, when Kant speaks of the *form* of the understanding in the singular, he means not judgments, not functions, but rather the unity of self-consciousness that underlies them: “the logical form of all judgments consists in the objective unity of the apperception of the concepts contained therein.”²²⁷

Both of these interpretations of function, the attributive and the resultative, get something right and the two interpretations do not seem to me to be incompatible. Henrich is right to point out that functions are for Kant *productive*; they issue in a particular result, which is a unity. This is what Kant means when he describes a judgment as a function of unity: “So in the judgment, e.g. ‘All bodies are divisible,’ the concept divisible is related to various other concepts; among these, however, it is particularly related to the concept of body, and this in turn is related to certain appearances that come before us. These objects are therefore mediately represented by the concept of divisibility. All judgments are accordingly functions of unity.”²²⁸ In other words, there are a variety of objects that we encounter, which we describe in common as being a body, i.e. they are united, equally represented by the concept of body. When we say “all bodies are divisible,” we say that all these objects that we immediately encounter are also represented by the concept of divisibility. But they are represented as divisible not immediately, but rather indirectly or mediately, i.e. by virtue of their being bodies. So the judgment that “all bodies are divisible” produces a unity between a concept (divisible)

²²⁶ A68/B93.

²²⁷ B140. See Chapter Five, §4 for further discussion.

²²⁸ A68-69/B93-94.

and a set of appearances, by means of another concept (body) that relates immediately to those appearances. In Wolff's example of various action-units unified in a single activity, this productive aspect is lost. But Wolff is right to point out that the single action of 'synthesis' may involve various specifiable sub-processes, i.e. determining the judgment in relation to each of the four titles of categories. In judging, we have to specify how the two concepts are related in terms of their quantity, quality, and relation, as we'll discuss below. So, in accordance with the resultative interpretation, by making the judgment "all bodies are divisible," we unify two concepts (bodies and divisibility), and we also unify the predicate (divisibility) to all of the appearances to which the subject (body) is applicable. But, in accordance with the attributive interpretation, we make this unity by determining the two concepts according to the four titles of the table of judgments. That is we unify them in a universal, affirmative, categorical, and assertoric manner.

Judgments thus 'rest on' functions, and functions are productive of unity. But in what sense do they produce unity? To make a judgment like "this is an apple" connects the representation of some empirical data ("this") to a more general representation ("apple") that is shared by other similar objects (other apples). Kant thus writes that "in every judgment there is a concept that holds of many, and that among this many also comprehends a given representation, which is immediately related to the object."²²⁹ There are two related factors here that need to be disentangled. First, the general concept "holds of" (*gelten*) a variety of representations; they are united in it. But this "holding" of many occurs only insofar as we can (or actually do) predicate that concept of the particular

²²⁹ A68/B93.

representations.²³⁰ This can be illustrated with an example. If someone encounters an apple for the first time, the person may observe its various properties: its sweetness, crispness, mealiness, etc.²³¹ The person may give it an arbitrary name like *pomme*. They may naïvely assume that *pomme* is an entirely unique object, that no other object shares this combination of properties so that *pomme* functions as the proper name of the object. Later this person encounters another sweet, crisp, mealy object. It may be slightly larger or smaller than *pomme* or it may have a slightly different coloration, but it has enough in common that the person feels entitled to call this second object *pomme* as well. The person now realizes that the *pomme* they encountered earlier is not an entirely unique object, but that there are other objects that share enough similar properties that *pomme* constitutes an instance of a general type. The person may say of this new object “this is *pomme*” or “this is *a pomme*,” or perhaps they may devise a new word for the general type like “apple” as opposed to the proper name *pomme*. In any case, a concept is needed that will encompass both the original *pomme* and this new object. This new concept will then be a general representation that covers the similar properties of both objects. Over time the concept may be refined as more examples are encountered. One may be able to define various subtypes of apples like granny smith or gala. Or one may recognize apples as a subtype of some more general concept by making judgments like “apples and

²³⁰ I am influenced here by Longuenesse’s argument in “The Divisions of the Transcendental Logic and the Leading Thread,” esp. 141-143. According to her interpretation of the metaphysical deduction, Kant is attempting to connect the power of subsuming objects under concepts (*Urteilstkraft*) with the broader “capacity to judge” (*Vermögen zu Urteilen*). See also Longuenesse, *Kant and the Capacity to Judge*, 90-93.

²³¹ This example assumes that it is possible to unify such disparate properties into a single object. However, as I shall argue at the end of §4a below, such a unification is only possible as *a result* of the synthetic activity of the understanding. So the assumption of unified singular objects should be seen here by the reader as merely for heuristic purposes.

oranges are fruit.” In this way, concepts are created, expanded, and connected to one another through judgments.

This is essentially the process that Kant describes with his own example of the concept of “body”: “the concept of body thus signifies something, e.g. metal, which can be cognized through that concept. It is therefore a concept only because other representations are contained under it by means of which it can be related to objects.”²³² What makes a representation a *concept*, i.e. something general as opposed to singular, is that it comprehends a variety of other representations, and it does so through judgment. “Body” counts as a concept (indeed a very general one) because it comprehends other representations like metal, which in turn comprehends other representations like iron, bronze, titanium, etc. These representations may be connected with individuals that we encounter in experience. By contrast, a proper name like “Aaron” comprehends only a singular entity, and therefore does not constitute a concept.²³³ Whereas one can intelligibly say “this is a body” or “this is a metal,” the same is not true for “this is an Aaron.”

The upshot of this process is that when we encounter some new object that we identify with a concept, we are able to apply all of our antecedent knowledge about the concept to this object by making judgments like “apples are nutritious, this is an apple, therefore this apple is nutritious.”²³⁴ This is essentially what Kant means when he writes

²³² A69/B94.

²³³ Here I shall pass over the obvious objection that many people are named “Aaron,” and that most proper names are derived from and shared with other individuals.

²³⁴ Pollok describes this as the rule-like character of judgment: “according to Kant, the concept ‘gold’ functions as a rule to the effect that whenever we apply the concept ‘gold’ to a particular representational object we are rationally required to also connect the ‘metal’ with it” (Pollok, *Kant’s Theory of Normativity*, 136). Calling this connection “rationally required,” however, is infelicitous. Surely, whenever I think of or attend to a concept, I do not need to judge, “This is gold, gold is a metal, metals are bodies, bodies are

that “all judgments are accordingly functions of unity among our representations, since instead of an immediate representation a higher one, which comprehends this and other representations under itself, is used for the cognition of an object, and many possible cognitions are thereby drawn together into one.”²³⁵ Empirically, of course, this is not an infallible process. Our concepts may not be very well-defined and we may make mistakes in our judgment. An object that appears to be an apple, and that we judge to be an apple, may turn out to be a plastic replica. We may hear of a *pomme de terre* and think of it as a kind of apple, only to have our expectations frustrated later when we find out that it’s a potato. But even when corrections or revisions are necessary, they do not undermine, but rather belong to, the general game of judgment and knowledge acquisition. We may judge “this is not an apple” and offer as a justification that the object does not share the properties that we include with this concept, e.g. being organic rather than plastic. Judgments are corrected by other judgments.

If the relationship between a concept and sensible data is mediated by judgment, it must be recognized that the mediation is multifarious. There are various kinds of judgment, which is to say that there are various ways of unifying contents in a judgment, or that there are various *forms* of judgment.²³⁶ Kant enumerates these various kinds in the table of judgments which contains four headings or ‘moments’ each with three corresponding functions:

extended, etc.” But reason should *forbid* us from making a judgment like “This is gold, yet it is *not* a metal.”

²³⁵ A69/B94.

²³⁶ The *Jäsche Logik* states “Matter and form belong to every judgment as essential constituents of it. The matter of the judgment consists in the given representations that are combined in the unity of consciousness in the judgment, the form in the determination of the way that the various representations belong, as such, to one consciousness” (9:101). See also *Logik Vienna* (24:928-929), and Pollok, *Kant’s Theory of Normativity*, 136-137.

1. Quantity: universal, particular, singular
2. Quality: affirmative, negative, infinite
3. Relation: categorical, hypothetical, disjunctive
4. Modality: problematic, assertoric, apodictic

Thus a judgment like “no humans are dinosaurs” would be universal in its quantity, negative in its quality, categorical in its relation, and assertoric in its modality. Kant’s table loosely resembles those of his day, although he admits that it “seems to depart in several points, although not essential ones, from the customary technique of the logicians.”²³⁷

This table is supposed to delineate the various forms of judgment. Thus the judgment “no humans are dinosaurs” may be represented formulaically as “no Xs are Ys.” In this formula, X and Y could be substituted by any number of terms. The particular terms that one substitutes are the “matter” or “content” of the judgment. By contrast, the words “no” and “are” are logical constants that indicate the form of the judgment. There are other recognizable logical constants like “some” (to indicate a particular judgment) or “possibly” and “necessarily” (to indicate problematic and apodictic judgments) or “if... then” and “either... or” (to indicate hypothetical and disjunctive judgments). It is also possible to use alternate terms to indicate the form of the judgment, such as using the verb “must” instead of “is necessarily.”

Regardless of the terminology one uses, all judgments must involve some logical forms to indicate *how* the terms of the judgment are related. If one simply states the

²³⁷ A70-71/B96. As Longuenesse points out, this explanation is dubious since “neither Kant’s list of precise logical forms, nor their groupings under the headings of quantity, quality, relation, and modality is in direct conformity with any of the logical textbooks that preceded the *Critique of Pure Reason*” (*Kant and the Capacity to Judge*, 3).

content of the judgment without any logical form, e.g. “humans, dinosaurs” instead of “no humans are dinosaurs,” this would not count as a judgment since no relation is made between the terms. It is the logical forms that turn disparate concepts into a judgment by placing them in a particular relationship. It is in this sense that we can affirm MacFarlane’s two senses of formality in Kantian logic.²³⁸ Logic is formal because it is general or indifferent to the various contents that are united: the same logical form can be applied to an indefinite number of contents. Logical is also formal in the sense of being constitutive of an activity. To think, for Kant, means to unite concepts through judgment, and it is this very uniting that is the condition for the possibility of a concept at all, i.e. a general representation as opposed to a singular one.

Objections have been raised to several elements of this account. The forms under the heading of relation are particularly problematic, since hypothetical and disjunctive judgments are composed of categorical judgments.²³⁹ For example, the hypothetical judgment “if some A is B, then all C is D” is made up of two separate judgments, i.e. “some A is B” and “all C is D.” Although Kant acknowledges this, it has unforeseen problems. It seems implicit in Kant’s account, though he does not seem to argue it anywhere,²⁴⁰ that any judgment will involve exactly one form from each of the four headings. But as Kneale and Kneale point out, this is not possible with hypothetical judgments. The assertoric judgments that make up a hypothetical judgment can be

²³⁸ See Section 1 above.

²³⁹ In the *Jäsche Logik* Kant says that categorical judgments are the “matter” of hypothetical and disjunctive judgments (9:105).

²⁴⁰ See Michael Wolff, *Die Vollständigkeit der Kantischen Urteilstafel* (Frankfurt am Main: Klostermann, 1995) 13-14. There is a *Reflexion* from 1783-84 where Kant implies the necessity of using all the logical functions of judgment: “But why must I always represent every object as determined with regard not only to one, but rather to all the logical functions of judgment? Because only thereby is objective unity of consciousness possible, i.e., a universally valid connection of perceptions, hence experience as the only reality of cognition” (R5932 (18:391)).

quantified (all, some, one), but the hypothetical judgment itself, which connects the categorical judgments, cannot be quantified.²⁴¹ In the example above, the quantity of the first categorical judgment (some A is B) is particular, and the quantity of the second judgment (all C is D) is universal. But the hypothetical judgment itself, which combines these two, has no quantity. This has the unfortunate consequence that not all judgments seem to involve a form from each of the four headings.²⁴²

The objections of Kneale, Kneale, and others do not necessarily undermine Kant's whole account of the forms of judgment. But they do undermine his claim that in the table of judgments and categories "the understanding is completely exhausted and its capacity is entirely measured by these functions,"²⁴³ and that the various functions are "systematically generated from a common principle, namely the faculty of judging."²⁴⁴ But even if Kant does not give an exhaustive account of the functions of judgment, this does not necessarily undermine his claims, e.g. that the only use for concepts is to serve as predicates of a possible judgment, or that concepts are general representations that comprehend singular representations, or that judgments are acts of spontaneity rather than receptivity, or that all these claims, above and beyond their value as an account of judgment, have a significant epistemic import that Kant is happy to exploit. Yet there is a difference between asking whether an account has *some* explanatory value and whether its explanatory value exhausts a particular set of objects or phenomena. So when such

²⁴¹ Kneale, William and Martha Kneale, *The Development of Logic* (Oxford: Clarendon Press, 1962), 355-356. See also Strawson, *Bounds of Sense*, 73; Wolff, *Vollständigkeit*, 13, Guyer, *Kant and the Claims of Knowledge*, 98-99..

²⁴² A similar objection is that judgments involving relational terms are exceedingly difficult to parse in Kantian table, and may require other forms of judgment than Kant recognized. See Whiteley, C.H., "The Idea of Logical Form," *Mind* 60, no. 240 (Oct. 1951): 539-541, and von Wright, Georg Henrik, "Form and Content in Logic" in *Logical Studies* (London: Routledge, 1957), 1-21.

²⁴³ A79/B105.

²⁴⁴ A81/B107.

objections are made to Kant's theories, we ought to be wary about over-extending their import.

What Kant's account of judgment offers specifically is to entirely rework the old relation between concepts and individual objects. By subordinating concepts to judgments, Kant undermines a model of the mind in which the mind simply *abstracts* general representations from singular ones. In the Kantian account, concepts are revealed to be generated through a function or synthesis of the mind; they are products of the mind's spontaneity. Judgment is supposed to offer the clue to the way in which not just concepts, but anything whatsoever may be synthesized. As it turns out, such a synthesis is at work even in the intuition of objects, as we shall see in the next section.

§4 From Judgments to the Pure Concepts of the Understanding

Kant's ultimate concern is not the nature of judgment. Even though Kant says that "we can trace all actions of the understanding back to judgments," this is not to say that all actions of the understanding *are* judgments.²⁴⁵ Judgment is only supposed to be a 'clue' to something more fundamental in the mind, which he calls *synthesis*. Synthesis is supposed to explain not just the ways that concepts are united (as judgment does), but also how any contents (particularly intuitions) may be united. Synthesis thus encompasses not only the explicit act of judging but also any uniting of representations whatsoever: "by *synthesis* in the most general sense, however, I understand the action of putting different representations together with each other and comprehending their

²⁴⁵ A69/B94. This point has been forcefully argued by Land, Thomas, "No Other Use than Judgment?," 461-484; Ginsborg, Hannah, "Was Kant a conceptualist?" *Philosophical Studies* 137 (2008): 65-77.

manifoldness in one cognition.”²⁴⁶ This description of synthesis ought to remind us of Kant’s description of functions as producing unity by “ordering different representations under a common one.”²⁴⁷ But unlike judgment, synthesis need not be a conscious act. Kant evocatively describes it as “the mere effect of the imagination, of a blind though indispensable function of the soul, without which we would have no cognition at all, but of which we are seldom ever conscious.”²⁴⁸ Judgment is downstream from, and a species of synthesis, and for that reason judgment can be the ‘clue’ to synthesis.

How Kant expresses this is difficult and controversial. Roughly speaking, he wants to argue that the ways that *we relate terms in a judgment* are the same as the ways that *the contents of an intuition* because both stem from the “same function” of the understanding: “The same function that gives unity *in a judgment* also gives unity to the mere synthesis of different representations *in an intuition*, which expressed generally, is called the pure concept of the understanding.”²⁴⁹ But this claim – that it is the “same function” which gives unity in a judgment as that which gives unity in intuition – is, unfortunately, merely asserted and not argued for. If true, it would mean that *any* act of uniting representations occurs in a manner analogous to the uniting of a subject and predicate in a judgment.²⁵⁰ So the perception, for example, of a red apple would be in some way analogous to (rest on “the same function” as) making a judgment like “the apple is red.” The relation between the form and matter of a judgment would thus have a

²⁴⁶ A77/B103.

²⁴⁷ A68/B93.

²⁴⁸ A78/B103.

²⁴⁹ A79/B105.

²⁵⁰ This expression leaves out the disjunctive and hypothetical forms of judgment, although these are, strictly speaking, compounds of assertoric judgments (if... then... and either... or...).

parallel in, and serve as the basis of, an analogous relationship in our perception of phenomenal objects.

Another way of interpreting Kant's claim that the unity of intuition and judgment rest on "the same function" of the understanding is to argue that there can be no ultimate distinction between intuition and understanding. Such a view is expressed by Paul Natorp, who writes that "in the end, 'intuition' no longer remains a cognitive factor which stands across from or opposed to thinking. It *is* thinking, just not thinking in terms of laws, but thinking in terms of full objects."²⁵¹ Such a claim, or something like it, was made by the German idealists who succeeded Kant as well as some Neo-Kantians (like the members of the Marburg school, to which Natorp belongs).²⁵² It is often supported by appealing to Kant's obscure remark at B160n that the unity of space and time "presupposes a synthesis, which does not belong to the senses but through which space and time first become possible."²⁵³ Taken at face value, such a remark suggests that intuition and the forms of space and time would not be possible without the understanding, and thus Kant's neat distinction between intuition and understanding as distinct sources of cognition would be invalid. There are textual difficulties with this view, particularly the fact that immediately after the passage just quoted Kant goes on to say that "the unity of this *a priori* intuition belongs to space and time, and not to the

²⁵¹ Natorp, Paul, "Kant and the Marburg School," in *The Neo-Kantian Reader*, ed. Sebastian Luft (New York: Routledge, 2015) 186.

²⁵² For the German idealists, see, e.g. Fichte, J.G. *The Science of Knowledge*, ed. and trans. Peter Heath and John Lachs (Cambridge: Cambridge University Press, 1982), 38-42 (Second Introduction, §5). Hegel, *Faith and Knowledge*, 70. Jennifer Bates outlines and endorses this trajectory of post-Kantian thought in *Hegel's Theory of Imagination*, 3-18. For the Neo-Kantians, see Cohen, Hermann, *Kommentar zu Immanuel Kants Kritik der Reinen Vernunft*, (Leipzig: Verlag Der Dürr'schen Buchhandlung, 1907) 62; Cassirer, Ernst, *Das Erkenntnisproblem in der Philosophie und Wissenschaft der neueren Zeit*, vol. 2 (Berlin: Verlag Bruno Cassirer, 1922), 396-397. A more recent proponent of the Neo-Kantian view as an interpretation of Kant is Éric Dufour, "Remarques sur la note du paragraphe 26 de l'Analytique transcendantale. Les interprétations de Cohen et de Heidegger," *Kant Studien* 94 (2003): 69-79.

²⁵³ B160n.

concept of the understanding,” which seems to undercut the claim that the unity of space and time are attributable to the understanding.²⁵⁴

It is worth noting now that to the extent that Kant was aware of the effort to collapse the intuition and understanding in this way, he vehemently disavowed it. In one of his final public writings, he publicly denounced Fichte’s *Wissenschaftslehre* on the grounds that the pure understanding cannot generate its own objects: “the pure theory of science is nothing more or less than mere *logic*, principles of logic cannot lead to any material knowledge, since logic, that is to say, pure logic, abstracts from the content of knowledge; the attempt to cull a real object out of logic is a vain effort and therefore something that no one has ever achieved.”²⁵⁵ Kant’s fear was that by unifying intuition and understanding, Fichte had passed over into the kind of transcendent metaphysics denounced in the Transcendental Dialectic. Maintaining the distinction between intuition and understanding is necessary for differentiating between what is inside and outside the bounds of experience, and consequently which judgments have empirical validity, and which are mere ideas of reason. Although those who wish to draw understanding and intuition closer together are often motivated to close the apparent gap between spontaneity and receptivity, between what is given to the mind and what the mind makes of it, Kant’s fear is that closing this gap will inadvertently end up justifying any use of reason – even a fallacious one. So he insists rather on the contentlessness and formality of

²⁵⁴ *ibid.* This has led to Lorne Falkenstein’s well-known complaint that the footnote itself is incoherent and that it can be used to justify any interpretation one wishes (Falkenstein, *Kant’s Intuitionism*, 91). The most thorough analysis (over 50 pages long!) of the footnote and the various interpretations of it is Onof, Christian and Dennis Schulting, “Space as Form of Intuition and as Formal Intuition: On the Note to B160 in Kant’s *Critique of Pure Reason*,” *Philosophical Review* 124, no. 1 (2015): 1-58. Onof and Schulting ultimately argue that there is a non-conceptual “unicity” of space that is distinct from a synthetic unity produced by the understanding, but that the functions of the understanding are necessary to grasp this unicity as such (“Space as Form of Intuition and as Formal Intuition,” 53).

²⁵⁵ Kant, “Declaration concerning Fichte’s *Wissenschaftslehre*” in *Correspondence*, trans. and ed. Arnulf Zweig (Cambridge: Cambridge University Press, 1999), 12:370.

logic as the foundations of a pure science, which must receive its content from intuition. Hence, even though Kant is prepared to say that the understanding has a great and indispensable role in determining intuitions, he resists collapsing the two faculties into one.

§4a: The Myth of the Given

One of the most fruitful engagements with the claim that the unities of intuition and understanding rest on the “same function” of the understanding comes from Sellars’ famous critique of the “myth of the given.” Though nominally directed against the sense-datum theorists of the early 20th century, its import extends quite a bit farther. I shall address only the part of Sellars’ argument that pertains to the Kantian themes I have been addressing. In brief, Sellars’ argument is that we can have impressions of an object that may be described as a “this-such,” e.g. “this-red,” “this-cube,” “this-sweet.” According to the sense-datum theory which Sellars criticizes, impressions of these kinds amount to a knowledge of facts like “this is red,” “this is a cube,” “this is sweet.”²⁵⁶ There is thus little-to-no space between receiving an impression and making a judgment about the impression. The one activity leads immediately (or as Sellars says “non-inferentially”) into the other. But Sellars’ argument is that these are in fact quite different kinds of mental activities, which operate according to different rules. For Sellars, in order to move from an impression of “this-red” to the judgment “this is red” requires certain cognitive abilities above and beyond merely being able to receive the impression of redness. In particular, a judgment about a particular color impression requires being able to

²⁵⁶ See Sellars, *Empiricism and the Philosophy of Mind* (Cambridge, MA: Harvard University Press, 1997) 21-22 [§7].

distinguish standard and non-standard conditions, as well as standard and non-standard observers, and to know in what kind of conditions one stands when making a judgment.²⁵⁷ If someone has an impression of redness while wearing red-tinted glasses, we would not think that this impression warrants the judgment “this is red” since the person with tinted glasses is in a recognizably nonstandard condition. Thus while impressions are governed by certain physical and physiological processes, judgments are governed by certain norms.

For Sellars, the ability to make such distinctions between standard and nonstandard conditions is something that we acquire empirically, and so assertions about what is or is not standard are open to disagreement and refutation. This ability is “built upon a long history of acquiring and manifesting verbal habits in perceptual situations.”²⁵⁸ Hence Sellars concludes that “in characterizing an episode or a state as that of knowing, we are not giving an empirical description of that episode or state; we are placing it in the logical space of reasons, of justifying and being able to justify what one says.”²⁵⁹ Sellars thus opens a chasm between sensation and knowledge, or between intuition and understanding. If he is right, it would undermine Kant’s claim that intuition and judgment rest on the ‘same function’ of the understanding, which gives unity to each of them. For Sellars, the ‘sphere of reasons’ is governed by norms of justification, while sensations are governed by physical-chemical processes. They adhere to heterogeneous laws and structures.

²⁵⁷ Sellars, *Empiricism and the Philosophy of Mind*, 43 [§18].

²⁵⁸ *ibid.*, 77 [§37].

²⁵⁹ *ibid.*, 76 [§36].

To answer the Sellarsian challenge would require a demonstration of Kant's claim that intuition and understanding rest on “the same function,” which is a long endeavor that can only through an analysis of the Transcendental Deduction and Analytic of Principles. In this, I shall argue that Kant is not ultimately successful.²⁶⁰ But some light can already be shed on the problem. I mentioned in §2 of this chapter that intuitions for Kant deal with singular representations, while concepts deal with general ones. But this characterization is somewhat misleading if we think of several intuitions such as this apple, that apple, another apple, etc. all standing under and being unified in a general concept “apple.” On such a view, a particular apple would count as a singular, while the concept “apple” would be a general representation that comprehends it. But Kant realizes that even the intuition of a particular object like “apple” consists of a manifold of representations such as sweetness, meanness, crispness, etc. all of which are united in the concept of “apple.” Thus a commonplace empirical object like “apple” is not exactly a singular representation, but rather a manifold of representations that are synthesized in a general concept. To invoke the language of ancient philosophy, the object is a ‘one’ that is also ‘many.’ In Kant’s account, the synthesis of a manifold of empirical relations is supposed to rest on “the same function” as the synthesis of concepts in a judgment. And both of these, in turn, are supposed to rest on certain *a priori* principles or categories. Thus the form and matter of a judgment are a heuristic both for the constitution of empirical objects, as well as the *a priori* principles which enable some degree of certitude of the empirical world.

²⁶⁰ See Chapter Five, §4.

For this reason, when I intuit an object like an apple, it may appear to be a singular, unified object that is but one instance of a general concept “apple,” of which there are many other instantiations. However, Kant’s account makes clear that there is an intricate cognitive apparatus that undergirds the simple act of intuiting something *as an apple*. To have such an intuition of a unified object presupposes a certain synthesis of disparate sensible qualities into one object. If we give such an object a general name like “apple,” this implies that such qualities are found together with a certain regularity. In the A Deduction Kant gives his own example: “if cinnabar were now red, now black, now light, now heavy [...], then my empirical imagination would never even get the opportunity to think of heavy cinnabar on the occasion of the representation of the color red.”²⁶¹ What this means is that the ability to identify and reidentify particular objects depends on their sensible qualities exhibiting a regular self-identity and recurring in combination (what I’ll call the objective side of the cognition), and on our being able to recognize their recurrence (what I’ll call the subjective side of the cognition). If the sensible qualities were fundamentally protean, e.g. if the color red had no fixed meaning, then we would never be able to begin to conceive objects on the basis of sensible qualities. We would never be able to say “the apple is red” or “the cinnabar is red,” or even “this red thing is different from that red thing.” In this way, the ability to recognize sensible qualities requires that these sensible qualities have some sort of fixed identities, and that we are able to recognize them as such, which is to say that we are able to generate a concept in which repeated instances of the qualities are comprehended. If sensible qualities were entirely disparate, or if their combinations were entirely random

²⁶¹ A100-101.

and irregular (as Kant suggests in the cinnabar example) we would never be able to identify anything as a unified object, much less as one instantiation of a general type. It would be vain to give a name to an object, for the object itself would have no consistency. Every name and every concept would be equivocal.

For this reason, the ability to see an individual object *as* an individual object is tied up with our ability to generate concepts, and, as I shall argue, our ability to make judgments. On the objective side of the cognition, the ability to recognize an individual rests on the fact that what we intuit is not entirely unique, disparate, or random, but rather exhibits certain regularities and interconnections – what Kant calls the “affinity” of the manifold.²⁶² But, on the subjective side, the ability to see something as an object requires us to actually see and compare different objects in order to differentiate their various properties and identify what they may have in common. In one of the few places where Kant describes the act of concept generation, he gives a central role to this act of comparison: “I see, e.g., a spruce, a willow, a linden. By first comparing these objects with one another I note that they are different from one another in regard to the trunk, the branches, and leaves themselves; but next I reflect on what they have in common among themselves, trunk, branches, and leaves themselves, and I abstract from the quantity, the figure, etc. of these; thus I acquire the concept of a tree.”²⁶³ It is not hard to see how this act of comparison has a judgmental structure, even if we are not necessarily making explicit judgments. Thus to see one tree as different from another means that we can make judgments like “This one has leaves of such-and-such shape and color; that one does not,” “this one has a bark of such-and-such a texture; that one does not,” etc. Even

²⁶² See A113-114, A122. Kant grounds this affinity in the unity of apperception, but this is not relevant to my argument just yet.

²⁶³ *Jäsche Logik*, §6 (Ak. 9, 94-95).

to see one thing as a tree means that we recognize some of its sensible qualities (bark, leaves, trunk, etc.) as belonging to a general type, “tree.” That is, when we intuit, recognize, identify, or differentiate an object as an object we are either implicitly or explicitly attributing predicates to the object.

For all these reasons, when we intuit an object we do not simply receive the form of the object as in Aristotle’s account of sensation or as the “given” that Sellars critiques.²⁶⁴ There needs to be a spontaneous act of comparison, reflection, and recognition, that requires concepts and has a judgmental structure. This is how I understand Kant’s claim that the same function gives unity to intuition and judgment. When I see an object as a combination of various sensible qualities, something of that combination of many into one is reflected in the predicative structure of a judgment: *this* is *that*. To see something as an object of such-and-such a type I need to be able to make comparisons and generalizations from my sense experience that make it possible to identify discrete types of objects and differentiate those types from others. In this way, it would not be possible to intuit discrete objects without the conceptual and judgmental capacities of the understanding. Or, as Kant says, “intuitions without concepts are blind.”²⁶⁵

§4b: Locke and Hume on Simple and Complex Ideas

²⁶⁴ This point was clearly recognized by de Vleeschauwer, *La déduction transcendantale*, Vol. 2, 44: “En effet, pour Aristote, l’objet saisi par la sensibilité est un objet déterminé. Donc l’unité dont témoigne la représentation conceptuelle est déjà présente dans la représentation sensible. Seulement la sensibilité n’est pas faite pour la reconnaître. Pour Kant au contraire, l’apport de l’unité est la fonction propre de l’intelligence.”

²⁶⁵ A51/B75.

In the background to all this is Kant's apparent endorsement of a kind of perceptual atomism descending from British empiricists like Locke and Hume. This is the view that sensible qualities are received by the mind individually (as 'atoms' so to speak, although perceptual atomism does not necessarily entail that one believes in a physical or metaphysical atomism). Hoppe has convincingly shown how the difficulties entangled with perceptual atomism run through Locke and Hume to Kant, and I am indebted to his analysis in what follows.²⁶⁶ Hume was obviously the greater influence upon Kant; it was his treatment of causality that, in Kant's telling, "first interrupted my dogmatic slumber."²⁶⁷ But while crediting Hume in this way, Kant simultaneously criticizes him for not realizing the generality of the problem he unearthed: Hume "did not completely set out his problem, but only touched on a part of it, which, without the whole being taken into account can provide no enlightenment."²⁶⁸ Kant sees as his own task to repose Hume's problem more radically, which he takes to be the problem of synthetic *a priori* judgments: "So I tried first whether Hume's objection might not be presented in a general manner, and I soon found that the concept of the connection of cause and effect is far from being the only concept through which the understanding thinks connections of things *a priori*; rather metaphysics consists wholly of such judgments."²⁶⁹ Hume posed the right problem but did not realize its full import. But, as Hoppe argues, this problem is

²⁶⁶ Hoppe, Hans Georg, *Synthesis bei Kant* (Berlin: de Gruyter, 1983): 66-77.

²⁶⁷ *Prolegomena* (4:260).

²⁶⁸ *ibid.* For an excellent commentary on this passage, see Beck, Lewis White, "A Prussian Hume and a Scottish Kant," in *Essays on Kant and Hume* (New Haven: Yale University Press, 1978), 111-129. Similar to my approach in this section, Beck argues that Hume is closer to Kant than is often acknowledged, enough to warrant saying that Hume is 'A Scottish Kant,' just as Kant once called himself a 'Prussian Hume' ("A Prussian Hume and a Scottish Kant," 127-128).

²⁶⁹ *Prolegomena* (4:260).

prefigured even more radically in Locke than in Hume.²⁷⁰ For, the problem of synthetic *a priori* judgments evidently has a much greater extent than the narrow problem of causation. Causation is merely one way in which two things are linked together. Though Locke did not have Hume's skeptical bent, he addressed much more directly the problem of how the mind can complex representations, and how such representations can lay claim to objectivity. This is a much more appropriate and illustrative analog of Kant's problem of synthetic judgments than Hume's treatment of causality.

My approach in this section thus contrasts with some aspects of Kant's own self-presentation, which have become part of the standard view of him and are repeated in the secondary literature.²⁷¹ That is, Kant himself scarcely acknowledged any debt to earlier thinkers, and stressed his own novelty vis-à-vis the philosophical tradition. The major exception to this is his crediting of Hume with awakening him from his dogmatic slumber, but since he famously argues against Hume's account of causality in the Second Analogy, Hume appears to be a mere catalyst for Kant's developing a truer, anti-Humean position. By contrast, my own argument is that Kant has a greater debt to the British empiricists than he lets on. This is true when it comes to the issue of what validity complex representations can have, i.e. where we represent several different things as belonging to one, such as many different accidents as belonging to a single substance (to put it in the older language) or many different predicates as belonging to a single subject

²⁷⁰ Hegel also saw a similar affinity between Kant and Locke. After quoting the Introduction to Locke's essay, Hegel writes that "they are words which one could just as well read in the introduction to Kant's philosophy; for it similarly confines itself to Locke's goal, that is, to an investigation of the finite intellect" (*Faith and Knowledge*, 69).

²⁷¹ See, e.g. Allison, *Kant's Transcendental Idealism*, 23-34, who lumps together all pre-critical philosophers – including Locke, Hume, Leibniz, and Berkeley – as varieties of transcendental realism subscribing to a theo-centric model of cognition. I address the issue of transcendental realism and idealism further in the next chapter. A somewhat more sympathetic account of Kant's relation to Locke is given by Guyer, *Kant and the Claims of Knowledge*, 1-3.

(to use the Kantian language of judgment). Although I make no claim that the British empiricists subscribed to a Kantian transcendental idealism (and I shall say more about this in the next chapter), by looking at how they addressed the problem of complex representations we can see both how the Kantian problem of synthetic *a priori* judgments arise and get an intimation of Kant's solution. In this way, I hope to exhibit a kind of internal critique of certain ideas of Locke and Hume to indicate how they open up the questions addressed by Kant.²⁷²

Locke distinguishes between simple and complex ideas, and holds that the impressions the mind receives are, in Locke's words, "simple and unmixed."²⁷³ This is the basic claim of perceptual atomism. He goes on to explain that:

For, though the sight and touch often take in from the same object, at the same time, different ideas; – a man sees at once motion and colour: yet the simple ideas thus united in the same subject, are as perfectly distinct as those that come in by different senses. The coldness and hardness which a man feels in a piece of ice being as distinct ideas in the mind as the smell and whiteness of a lily; or as the taste of sugar, and smell of a rose.²⁷⁴

Locke's point is not merely that distinct senses can yield different properties (like the color and smell of a lily), but that one sense, focusing on one object, can deliver distinct ideas, as touch can simultaneously sense the coldness and hardness of ice. Even though

²⁷² A criticism of this approach might be that the comparison between Kant, Hume, and Locke is illegitimate because Kant is a transcendental idealist and they aren't. As I mention in the note above, Henry Allison suggests such a view (Allison, *Kant's Transcendental Idealism*, 23-34). I think, though, that this potential criticism would be based on a misunderstanding about what specific aspect of their thought I'm discussing and what relevance it has for Kant. In discussing perceptual atomism, I am using a scholarly neologism to describe a particular theory of perception. Specifically, it's the theory that the content of perception consists of individual sense qualities (hence the 'atom' part of 'perceptual atomism') rather than collections of them. One should not be misled into believing that this has anything to do with a physical or metaphysical atomism or with the causes of perception. The term perceptual atomism is just used retrospectively to describe the claim that perceptions are fundamentally composed of individual sensible qualities. Once this is taken into account, I think Lockean ideas, Humean impressions, and Kantian phenomena can be meaningfully compared, in spite of the many differences between the various thinkers. All three are talking about things that occur inside of, or in relation to the mind, and not about what's outside it.

²⁷³ Locke, *Essay*, II.2.1.

²⁷⁴ *ibid.*

these ideas are delivered by one act – the touching of the ice – they are in fact distinct ideas that are *received* separately. The reason for this appears quite logical: if the mind did not receive the coldness and hardness separately, then they would not be simple but rather some kind of complex idea: cold-hardness.

With simple ideas, the mind is receptive or passive; they arise unbidden by the mind. By contrast, complex ideas are produced by combining, relating, or abstracting from simple ideas, and in this the mind needs to exert an activity (Kant would say spontaneity) of its own. Locke thus writes: “But as the mind is wholly passive in the reception of all its simple ideas, so it exerts several acts of its own whereby out of its simple ideas, as the materials and foundations of the rest, the others [i.e. the complex ideas] are framed.”²⁷⁵ Importantly, Locke recognizes that any idea of a particular empirical object is complex. An object like ‘apple’ consists of various properties like sweetness, crispness, mealiness, etc. Each of these properties is received by the mind as simple ideas through the senses. The object ‘apple’ is supposed to be the thing that underlies and supports these properties; it is what unites them in the sense that they *belong* to one substratum. Thus Locke states quite generally that:

Whatever therefore be the secret abstract nature of substance in general, all the ideas we have of particular distinct sorts of substances are nothing but several combinations of simple ideas, co-existing in such, though unknown, cause of their union, as makes the whole subsist of itself. It is by such combinations of simple ideas, and nothing else, that we represent particular sorts of substances to ourselves.²⁷⁶

For Locke, the ‘abstract nature of substance in general’ is unknown because it itself is not any one of the simple ideas that we receive in our minds. Since all properties are

²⁷⁵ Locke, *Essay*, II.12.1.

²⁷⁶ Locke, *Essay*, II.23.6

supposed to be “supported by” the substance, if the substance were identified with any particular property, e.g. “x,” one would have to ask what supports this “x,” which would lead to an infinite regress.²⁷⁷

Locke, though he does not quite use a form-matter distinction systematically, expresses the relation between simple and complex ideas through the metaphor of artisanal production, not entirely unlike Kant. After listing the three kinds of ideas produced by activities of the mind (complex ideas, ideas of relations, and general ideas), Locke remarks: “This shows man’s power, and its ways of operation, to be much the same in the material and intellectual world. For the materials in both being such as he has no power over, either to make or to destroy, all that man can do is either to unite them together, or to set them by one another, or wholly separate them.”²⁷⁸ What motivates this metaphor is a common observation that the imagination is unable to create new simple ideas, but must somehow receive them from without. Just so, Locke reasons, an artisan cannot create their materials *ex nihilo*, but rather must gather them out in the world. The task of the artisan is to assemble and configure these materials into a new form.

Locke’s distinction between simple and complex ideas poses a profound problem that is echoed in Hume’s skeptical treatment of causality and Kant’s whole endeavor in the first portion of the *Critique of Pure Reason* concerning synthetic *a priori* judgments. The problem stated generally is: what guarantee is there of the objective reality of

²⁷⁷ Locke, *Essay*, II.23.2

²⁷⁸ Locke, *Essay*, II.12.1. Elsewhere Locke calls simple ideas “the materials” of thinking or of knowledge or of related terms (II.1.2; II.13.1) and there also develops an artisanal metaphor to explain why the mind cannot create new simple ideas: “the dominion of man, in this little world of his own understanding being much what the same as it is in the great world of visible things; wherein his power, however managed by art and skill, reaches no farther than to compound and divided the materials that are made to his hand; but can do nothing towards the making of the least particle of new matter, or destroying one atom of what is already in being” (*ibid.*).

complex ideas? Given that simple ideas are received by the mind separately, how can we be assured that the particular combination that we make of them corresponds to reality? For Locke, this is not a problem in the case of simple ideas, since they are “not functions of our fancies, but the natural and regular productions of things without us, really operating upon us; and so carry with them all the conformity which is intended.”²⁷⁹ But such conformity is not guaranteed in the case of complex ideas of substances.²⁸⁰ He writes:

our ideas of substances, being supposed copies, and referred to archetypes without us, must still be taken from something that does or has existed: they must not consist of ideas put together at the pleasure of our thoughts, without any real pattern they were taken from, though we can perceive no inconsistency in such a combination. The reason whereof is, because we, not knowing what real constitution it is of substance whereon our simple ideas depend, and which really is the cause of the strict union of some of them with another, and the exclusion of others; there are very few of them that we can be sure are or are not inconsistent with nature any further than experience and sensible observation can reach.²⁸¹

Locke’s point is that the combination of simple ideas into a single object (i.e. substance) should not be random or arbitrary. We want it to be based upon something independent of our mind. But this is obviated by the fact that, for Locke, substances are unknowable as such. We cannot know whether our particular combination of simple ideas corresponds to a combination of qualities existing outside the mind.²⁸² For if consistency or inconsistency of combinations is our only criterion of truth (e.g. the same substance

²⁷⁹ Locke, *Essay*, IV.4.4

²⁸⁰ Here I restrict myself to the complex ideas of substances, which has been my concern. Locke actually thinks that complex ideas other than substances are necessarily true, e.g. our mathematical and moral ideas (see Locke [1689] IV.4.6-10).

²⁸¹ Locke, *Essay Concerning Human Understanding*, IV.4.12.

²⁸² My reading of this passage accords with Ayers’, who writes: “Since we can have no knowledge of the essence or nature of things, we are condemned to ideas of them which are logically composite, combining the idea of an unknown substance with the ideas of its experienced accidents. No definition we can supply for any substance constitutes a ‘real’ definition” (Ayers, Michael, *Locke: Epistemology and Ontology*, vol. 1 (London: Routledge, 1991), 37-38).

cannot be both hot and cold at the same time and in the same respect), then that does very little to whittle down the possible combinations of simple ideas into a substance. In this way, the problem of guidedness raised by Herbart against Kant – “why we must here see a round figure, there a quadrangular one[?]”²⁸³ – is prefigured in the very sort of empiricism that impels Kant to write the *Critique*.

The difficulty is that we cannot explain the objectivity of a particular combination of simple ideas without devolving into circularity. One may claim for example, that the concept “apple” consists of sweetness, mealliness, and crispness, and try to argue that this concept has objective validity because we do, in fact, experience these properties in combination in a single object. But such an appeal to experience would not establish the objective validity of the concept. We cannot appeal to experience to validate this conception of the apple, because the question of the objective validity of the concept “apple” does not ask whether we experience these properties in combination, but rather asks *whether these properties are also found in combination independently of our experience*.²⁸⁴ Bennett makes a trenchant remark about this problem in his commentary on Kant: “experiential order cannot be explained by *any* facts about objects since *all* these are part of the explicandum.”²⁸⁵ Kant’s answer to this problem, as we have started to develop it here, consists in articulating a conception of form as something that explains how the particular contents of an object are united into one.

²⁸³ Herbart *Lehrbuch zur Einleitung in die Philosophie*, §127. See my discussion of this and similar accusations in Chapter Two §5.

²⁸⁴ I admit that “independently” is a weasel word that has a variety of philosophically consequential meanings. In Chapter Four §2, I parse out these meanings and explain in what sense something like this can be said to be “independent of experience” for Kant.

²⁸⁵ Bennett, *Kant’s Analytic*, 21.

At any rate, Locke gives an unsatisfactory response to this problem: “Herein, therefore, is founded the reality of our knowledge concerning substances — That all our complex ideas of them must be such, and such only, as are made up of such simple ones as have been discovered to co-exist in nature. And our ideas being thus true, though not perhaps very exact copies, are yet the subjects of real (as far as we have any) knowledge of them.”²⁸⁶ If the problem is to decide how some combinations of simple ideas into a complex one may achieve objective reality, this answer is unavoidably circular. Locke tells us to look only at the combinations “of such simple ones as have been discovered to co-exist in nature” – but these combinations cannot truly be “discovered” since, by Locke’s own theory, the combinations are made by the mind. To assess the truth of them it would be necessary to have some criterion to assess their conformity to what exists in nature, but, again, Locke’s theory rules out the possibility of such a criterion.²⁸⁷

Whereas Locke sought to avoid skepticism about complex ideas, Hume embraces it. And Hume’s skepticism regarding substances is in some ways more thoroughgoing, though with different emphases, than Locke’s. In particular, there is Hume’s famous skepticism regarding the relation of cause and effect. Because each sense-impression is distinct from another, we cannot rationally infer from one sense-impression that others will follow from it. From this strict distinction of sense-impressions follows Hume’s skepticism of the relation of cause and effect: “every effect is a distinct event from its

²⁸⁶ Locke, *Essay*, IV.4.12.

²⁸⁷ Here I am in wholly in agreement with the analysis of Hoppe: “Komplexe Vorstellungen sind nach Locke das Produkt unserer eigenen subjektiven verbindenden Tätigkeit, sie ergeben sich aufgrund von Verbindungshandlungen unseres Bewußtseins, durch die aus den einfachen Vorstellungen - als ihrem Material - die komplexen Vorstellungen erst nachträglich gebildet werden müssen. Deshalb können die komplexen Vorstellungen auch nicht ohne weiteres als verlässlicher Ausdruck von in Wirklichkeit bestehenden komplexen Sachverhalten gelten; die in ihnen subjektiv verbundenen einfachen Vorstellungen kommen *objektiv* nur getrennt voneinander vor und enthalten keine Anhaltspunkte für eine *bestimmte* subjektive Zusammen fügung” (Hoppe *Synthesis bei Kant*, 68-69; see also *ibid.*, 71 n. 22).

cause. It could not, therefore, be discovered in the cause, and the first invention or conception of it, *a priori*, must be entirely arbitrary.”²⁸⁸ As Hume recognized concepts like ‘cause,’ ‘power,’ ‘energy,’ ‘connection,’ etc. compel one to go beyond the mere perception of one object or event and connect it to another. But this connection itself is never given in the first object or event, and thus we can never make necessary pronouncements about it.

The skepticism regarding causality has deeper implications for an empiricist epistemology. Since Hume recognizes that objects are supposed to exert a causal influence upon the mind to produce impressions and ideas within it, he is also skeptical that even our simple impressions correlate to an external object: “that our senses offer not their impressions as the images of something *distinct*, or *independent*, and *external*, is evident; because they convey to us nothing but a single perception, and never give us the least intimation of anything beyond.”²⁸⁹ This was not in doubt for Locke, though it arguably should have been. For if an impression is something different from the object it represents, it is necessary to ask on what basis we can know that these correlate with one another. Since we have no access to objects except through impressions, there is no way to independently judge the accuracy of our impressions – even simple impressions. Kant, of course, will follow a similar line of thought by foreclosing the possibility of having any knowledge of things in themselves (*Dinge an Sich*), and explicitly restricting himself to the knowledge of mere appearances (*Erscheinungen*). Kant grasped the full import of the problem of complex ideas, which of course he reformulates as the problem of synthetic *a priori* judgments. Once we enter the Copernican standpoint and realize that

²⁸⁸ Hume, *An Enquiry Concerning Human Understanding*, 19.

²⁸⁹ Hume, *A Treatise of Human Nature*, 1.4.2.

even our senses present us only with mere appearances, then it becomes impossible to appeal to some object behind the appearance as the guarantor of the objectivity of our perceptions. As we shall see in the next chapter, it requires Kant to entirely rethink the meaning and basis of objectivity itself when he attempts to prove the objective validity of the categories.

§4c Kant and Perceptual Atomism

There is a scholarly debate about whether Kant himself adheres to the kind of perceptual atomism espoused by Locke and Hume, though I shall argue that there is good reason to suggest that he does.²⁹⁰ In the first place, scholars who believe that Kant does not hold such a view may refer to his frequent claims that intuition is what is immediately related to objects or what “gives” the mind objects, e.g. “all thought [...] must ultimately be related to intuition [...] since there is no other way in which objects can be given to us.”²⁹¹ In my view, however, these statements ought not to be taken literally, but rather interpreted in light of the more nuanced account of the relation between intuitions, concepts, and objects, that Kant gives in the *Analytic*. Yet it must be admitted Kant is scarcely as explicit as Locke, or even Hume, about perceptual atomism. The closest that he comes to endorsing it explicitly is in the *A Deduction*:

Every intuition contains a manifold in itself, which however would not be represented as such if the mind did not distinguish the time in the succession of impressions on one another; for *as contained in one moment* no representation can ever be anything other than absolute unity. Now in order for *unity* of intuition to come from this manifold (as, say, in the representation of space), it is necessary

²⁹⁰ Besides Hoppe, Henrich also argues that for Kant “all immediate data for our cognition, i.e. the presentations of sensibility, are but simple and isolated qualities” (“Identity and Objectivity,” 151).

²⁹¹ A19/B33. For similar claims, see A68/B93, A89-90/B122-123, A239/B298, A320/B377, A719/B747. One scholar who takes such statements unproblematically is Allais, *Manifest Reality*, 246 ff., esp. 248: “I argue that intuitions do not depend on concepts to play their role of presenting us with particulars.”

first to run through and then to take together this manifoldness, which action I call the *synthesis of apprehension*, since it is aimed directly at the intuition, which to be sure provides a manifold but can never effect this as such, and indeed as contained in *one representation*, without the occurrence of such a synthesis. (A99-100).

The key sentence of the passage is “as contained in one moment no representation can ever be anything other than absolute unity.” This claim, however, is somewhat obscure and does not obviously suggest something like a Lockean conception of “simple ideas,” particularly due to Kant’s mention of the succession of time.²⁹² Furthermore, the whole passage contains a number of interpretative difficulties, including the troublesome fact that it is removed from the second edition.²⁹³ Ostensibly this passage gives an account of the synthesis of apprehension, which describes the formation of a synthetic representation out of the aforementioned “absolute unity.” But there is an ambiguity: is intuition initially given as something absolutely unitary or as a manifold? If it is given as a manifold, then Kant would seem to hold a different view than the perceptual atomism of Locke and Hume; but if it is given something unitary, then he may be in the same camp as them.

Kant claims at the beginning of the passage that intuition properly contains a “manifold in itself,” but it is insufficient to represent this content as such without “distinguish[ing] the time in the succession of impressions on one another.”²⁹⁴ This sounds like Kant is saying that an act of analysis is needed to break up the unity so that the (implicit and not-represented-as-such) manifold is represented *as* a manifold. After

²⁹² de Vleeschauwer, however, seems to read it in this way: “une unité absolue s’oppose à l’unité relative. L’unité relative ne peut signifier autre chose, dans le cas présent, que l’unité d’une diversité, et l’unité absolue sera donc l’unité qui n’est pas composée ou, en termes critiques, l’unité non-synthétique. L’impression qui réalise cette unité absolue est donc simple” (de Vleeschauwer 1934 v. 1, 245).

²⁹³ Falkenstein remarks sardonically that “perhaps no other passage expressly struck out of a subsequent edition by a philosopher has been so persistently taken to be an accurate reflection of the most central aspects of that philosopher’s thought” (Falkenstein, *Kant’s Intuitionism*, 76).

²⁹⁴ A99-100.

the analysis, synthesis becomes necessary. But if that's what Kant's saying, it is seemingly inconsistent with the role of synthesis in the metaphysical deduction: "The synthesis of a manifold [...] first brings forth a cognition, which to be sure may initially still be raw and confused, and thus in need of analysis; yet the synthesis alone is that which properly collects the elements for cognitions and unifies them into a certain content; it is therefore the first thing to which we have to attend if we wish to judge about the first origin of our cognition."²⁹⁵ In this account, synthesis produces the "raw and confused" manifold, which then is in need of analysis. But these two separate accounts are not as incompatible as they seem at first glance. To represent a manifold as a manifold entails both analysis and synthesis: distinguishing various representations (otherwise it would be a mere unity) and yet representing the distinct representations as in some way one (otherwise it would not be *a* manifold). In the passage of the A deduction, the oneness is evidently supposed to be the oneness of a single apprehension. Prior to this distinguishing and synthesizing, there is no representation, no cognition, and no knowledge. So the synthesis of the manifold cannot be in any way based on or guided by a pre-represented content (the manifold that is only implicitly manifold). Such a content can play no role in any epistemic game. For this reason, the problem of how to synthesize empirical contents is just as pressing for Kant as it was in the perceptual atomism of Locke and Hume, regardless of whether Kant adheres to the specific concepts and terminology of those two.

My reading of A99-100 is confirmed by Kant's first mention of this synopsis in his introduction to the A Deduction. He writes that "If every individual representation

²⁹⁵ A77-78/B103.

were entirely foreign to the other, as it were isolated and separated from it, then there would never arise anything like cognition, which is a whole of compared and connected representations.”²⁹⁶ This might sound as if Kant is saying that the manifold is given as a “whole of compared and connected representations” and suggest that Kant does not subscribe to a perceptual atomism. But the next sentence makes clear that the manifold is only given as a whole, and cognition is only possible *because of* a corresponding synthesis: “If therefore I ascribe a synopsis to sense, because it contains a manifold in its intuition, a synthesis must always correspond to this, and receptivity can make cognitions possible only if combined with spontaneity.”²⁹⁷ In other words, if sense delivers a manifold that is received synoptically, i.e. with its various parts viewed together, this is due to a spontaneity.

This reading of A99-100 is further confirmed by other mentions of the synthesis of apprehension elsewhere in the *Critique*. In the B edition, Kant defines the synthesis of apprehension as “the composition of the manifold in an empirical intuition, through which perception, i.e. empirical consciousness of it (as appearance), becomes possible,”²⁹⁸ although this is admittedly more vague than the account in the A edition and also leaves out any mention of the ‘absolute unities’ described in the A edition. Kant’s later mentions of the synthesis of apprehension in the *Critique* focus almost exclusively on the fact that apprehension is necessarily *successive*,²⁹⁹ which hearkens back to his claim in the A edition that the mind must “distinguish the time in the succession of impressions on one another; for as contained in one moment no representation can ever

²⁹⁶ A97.

²⁹⁷ *ibid.*

²⁹⁸ B160.

²⁹⁹ A182/B225, A189/B234, A191/B236 ff., A201/B246 ff. The synthesis of apprehension also plays an important role in the Second Analogy, which I discuss in the Appendix.

be anything other than absolute unity.”³⁰⁰ Because our sensory impressions are fleeting, it is necessary to distinguish our different impressions as being part of a larger whole: what we saw a moment ago exists in continuity with what we see now. If we didn’t recognize this, then each impression would have to be treated as entirely distinct from another; it would be an absolute unity. All this shows that Kant is trying to explain the conditions of perceiving empirical objects understood as complex wholes, or a manifold of sense impressions united into one.

One other passage that confirms my reading is a note in the A Deduction where Kant comments on the importance of imagination in cognition:

No psychologist has as yet thought that the imagination is a necessary ingredient in perception itself. This is so partly because this faculty has been limited to reproduction, and partly because it has been believed that the senses do not merely afford us impressions but also put them together [*setzen... zusammen*], and produce images of objects [*brächten Bilder der Gegenstände zuwege*], for which without doubt something more than the receptivity of impressions is required, namely a function of the synthesis in them.

Evidently Kant thinks that imagination, which he here equates with “a function of the synthesis” in impressions, is what is responsible for producing images of objects, and that such images could not come about through the mere “receptivity of impressions.” Earlier in the text, Kant of course attributes “synthesis in general” to the imagination, calling it “a blind though indispensable function of the soul, without which we would have no cognition at all, but of which we are seldom even conscious.”³⁰¹ Although, as I argued

³⁰⁰ Allison, Kant’s Transcendental Deduction, 207. This is a stronger claim than is found in Allison’s earlier work where he says that the problem of synthesis “arises independently of any assumptions about how the manifold is given. For even if we suppose that the data are already given in an organized or unified fashion, the intellect must still represent to itself or think this “given” unity” (Kant’s Transcendental Idealism, 161-162). I am more favorable to this interpretation than his later one. However, I still believe that it is incoherent to speak of a manifold being given as unified and yet not represented as unified. A99.

³⁰¹ A78/B103. See §2a above for my discussion of Kant’s distinction between imagination and understanding.

above, Kant is inconsistent about the attribution of all synthesis to imagination, the general point stands that in order to produce images of objects, we must perform a synthesis since the component representations are not received together.³⁰²

There is, however, other indirect evidence for the atomistic view. In another passage in the A deduction Kant writes: “The first thing that is given to us is appearance, which if it is combined with consciousness is called perception [...]. But since every appearance contains a manifold, thus different perceptions by themselves are encountered dispersed and separate in the mind, a combination of them, which they cannot have in sense itself is therefore necessary.”³⁰³ Without much ado, Kant moves from manifoldness of an appearance to the claim that there is a multiplicity of “dispersed and separate” (*zerstreut und einzeln*) perceptions in the mind. In my reading, Kant is not describing a temporal sequence where a manifold is given first, and then later (i.e. at a later time) the manifold is combined by a synthesis. He is rather describing a logical sequence where the synthesis of the manifold is logically (but not temporally) prior to the manifold. It is true that in the order of experience, the appearance is given first. But this appearance is a *de facto* synthesized one, and there would not be that appearance unless the mind had already received distinct impressions and synthesized them into a whole. But we do not discover the role of this synthesis until (temporally) afterward and with a long practice of reflecting on the conditions of experience.³⁰⁴

³⁰² See Griffith, Aaron, “Perception and the Categories: A Conceptualist Reading of Kant’s Critique of Pure Reason,” *European Journal of Philosophy* 20, no. 2 (2010): 200-201, who makes this same point against Allais’ non-conceptualist reading, which I discuss below.

³⁰³ A120.

³⁰⁴ I am alluding to the opening of the B introduction (B1).

My reading, however, goes against a host of others. According to Allison, Kant's claim that "every intuition contains a manifold in itself"³⁰⁵ indicates that he does not hold an atomistic view of perception in the manner of Hume or Locke: "even though Kant defines an intuition as the representation of an individual, it is not regarded as something simple, e.g., a Humean simple impression; rather, it involves a multiplicity of items (impressions) received together, i.e., a synopsis."³⁰⁶ Allison's suggestion that the multiplicity of items are *received together* bears the burden of his argument. For if a multiplicity of items are received *together* in the sense of *synthesized* instead of the more modest sense of *simultaneously*, then there is little need to synthesize them after the reception. But, as I have already argued, so many strands of Kant's thought ought to lead us to deny the possibility of such a unified reception of impressions. Properly speaking, the impressions could not be received *together*, unless we are able to recognize them as together, i.e. to synthesize them. Secondly, as we've seen from Locke, there is no contradiction in thinking that a multiplicity of simple ideas are received simultaneously, as he suggested that the coldness and hardness of an ice cube are received with a single touch even though they are distinct simple ideas. Kant may have something analogous in mind when he says that we must distinguish the succession of impressions in a manifold in order to represent it as a manifold. Although the manifold is (implicitly) together, we cannot represent it as such without distinguishing and synthesizing the various

³⁰⁵ A99-100.

³⁰⁶ For other places where Kant similarly claims that intuition contains a manifold see A76-77/B102; A97; B145.

impressions within it. Without this, the manifold would not be represented as (i.e. would not be) a manifold.³⁰⁷

In Longuenesse's interpretation, Kant's claim at A99-100 differs from the perceptual atomists in that "what Kant considers as immediately given is not a manifold of sensory atoms, but *indeterminate empirical intuitions*; the sensations or impressions constituting its 'matter' are perceived 'as' manifold only if they are actively distinguished."³⁰⁸ Falkenstein goes a step further in diminishing the role of synthesis when he argues that "Kant takes *an ordered manifold* of parts or 'matters' to be the representation immediately given in sense intuition."³⁰⁹ If either of these views were correct, they would turn Kant's account of synthesis on its head. For, as we saw above, one of his fundamental claims is that all analysis (i.e. distinguishing) is preceded by and presupposes a synthesis: "the synthesis of a manifold [...] first brings forth a cognition, which to be sure may initially still be raw and confused, and thus in need of analysis."³¹⁰ An even clearer statement of the priority of synthesis is given in a letter that Kant sent to Beck in 1792:

But one may still ask: How can a union of representations, being complex, be represented? Not through the awareness that it is given to us; for a union requires uniting, (synthesis), of the manifold. It must thus, (since it is a union), be produced, and produced furthermore by an inner activity that is valid for a given manifold in general and that precedes *a priori* the manner in which the manifold is given.³¹¹

In other words, the synthesis of the manifold is logically prior to, and the condition of the manifold being given to us. Any representation of complexity requires unity. If, as

³⁰⁷ This interpretation also goes against that of Ameriks, Karl, "Kant's Transcendental Deduction as a Regressive Argument," *Kant Studien* 69, nos. 1-4 (1978): 80.

³⁰⁸ Longuenesse, *Kant and the Capacity to Judge*, 37.

³⁰⁹ Falkenstein, *Kant's Intuitionism*, 81.

³¹⁰ A77-78/B103.

³¹¹ *Correspondence* (11:315); see also A494-495/B522-523.

Longuenesse claims, the first act of cognition were to *distinguish* the various elements of the manifold, then there would not be a need for a *synthesis* of apprehension since the manifold would be already given as combined. If, as Falkenstein claims, the manifold were given as already ordered, then there would be no role for synthesis in intuition.

A similar position is held by Lucy Allais who claims that “Kant thinks that conceptual synthesis is needed to represent a singular thing as a complex of parts, a unified complex object: to represent the manifold in it *as* a manifold. This does not show that a subject could not be presented with a unified perceptual particular without concepts.”³¹² Allais, as one of the main proponents of a “non-conceptualist” interpretation of Kant evidently endorses the claim that we can “be presented with a unified perceptual particular without concepts.” But her language betrays an inconsistency. There cannot be a *unified* perceptual particular unless there are some distinct contents that are *unified*. To be *unified* implies a being-made-one-out-of-many (from the Latin *unificare*: to make one). Allais seemingly acknowledges this, and yet still insists that it is possible to be non-conceptually presented with a perceptual particular:

Kant thinks that conceptual synthesis is needed to represent a singular thing as a complex of parts, a unified complex object: to represent the manifold in it as a manifold. This does not show that a subject could not be presented with a unified perceptual particular without concepts. On the contrary, Kant thinks that without concepts a subject can only represent the things it is presented with in intuition as singular (as one whole) and cannot represent them as complexes as parts.³¹³

Perhaps there could be a *unitary* perceptual field, e.g. if one were to have a homogenous visual field of a single color, but this would not qualify as an “object” in either an ordinary or Kantian sense. Whatever this non-conceptual unified perceptual particular is,

³¹² Allais, *Manifest Reality*, 165.

³¹³ Allais, *Manifest Reality*, 165; italics added.

it can only be extremely rudimentary. At one point Dieter Henrich suggests that a bare tone or color might constitute such a representation³¹⁴ For anything more complex, to be an object requires a unification, a synthesis, a connection, a relation of distinct representations.³¹⁵ We may not have a general concept of each of these representations. (Indeed, in the Transcendental Dialectic Kant argues that we cannot cognize any object completely and that the thoroughgoing determination of an object is a mere regulative ideal of reason).³¹⁶ But an object would not be an object if it were not some distinct representations that we somehow represent as unified into one.

Reading A99, Allais offers a strained interpretation of synthesis: “Synthesising the manifold in an intuition is needed to grasp a particular we are presented with as a complex of parts: to represent the manifold in it as a manifold and therefore to represent a complex object as a unified object. This synthesis does not produce singular, unified representations in the first place; rather, it is something that is done to singular representations so that we can represent the complexity in them.”³¹⁷ Allais’ interpretation obviously echoes Kant’s claim that a synthesis is needed to represent a manifold as a manifold, but her argument undermines this very point. For she assumes that we are already presented with unified particulars, so that for her synthesis merely explicates the manifoldness that is already implicit in them. For Allais, our initial representation of objects is a representation of wholes, which are then represented as unified complexes of

³¹⁴ Henrich, Dieter, “Identity and Objectivity,” *The Unity of Reason*, 155-156.

³¹⁵ In the B Deduction Kant defines even an object as a unity of a manifold “An object, however, is that in the concept of which the manifold of a given intuition is united” (B137). Also in R6350: “An object is that in the representation of which various others can be thought of as synthetically combined” (18:676). See also R4634 (17:616), R5221 (18:122), R5643 (18:282-284).

³¹⁶ A571/B599 ff. I discuss this point further in Chapter Five, §6.

³¹⁷ Allais, *Manifest Reality*, 171.

parts.³¹⁸ But to move from a representation of a whole to its parts is better termed “analysis” than “synthesis,” since what she describes is not a putting-together but rather a separating-out.³¹⁹ And as Kant later claims in the B deduction, “we can represent nothing as combined in the object without having previously combined it ourselves.”³²⁰

The strongest evidence against perceptual atomism in Kant has to do with his rejection of a Leibnizian monadology. Continuing the arguments in his pre-critical writings, Kant is emphatic that the supposition that the composite must be made up of simple parts involves the fallacy of subreption. For we can certainly *think* that this must be the case and posit the existence of a simple part, but we cannot ever actually complete the division of a composite in order to verify it. Thus Kant argues in the *Metaphysical Foundations of Natural Science* that “the *composite in the appearance* does not consist of the simple, because in the appearance, which can never be given otherwise than as composed (extended), the parts can only be given through division, and thus not prior to the composite, but only in it.”³²¹ Later in the *Entdeckung*, he writes: “the *Critique* [...] shows that in the corporeal world, as the totality of all objects of outer sense, there are, indeed, everywhere composite things, but that the simple is not to be found *in it* at all.”³²² But here too we have the aforementioned problem that plagues A99-100, namely that there is a discrepancy between the order in which things are experienced and the

³¹⁸ Allais, *Manifest Reality* 171: “we first need to be presented with something presented as singular (a unit); this puts us in a position to represent the thing as a complex of parts through a conceptually governed synthesis of the manifold in it.”

³¹⁹ Such an interpretation is endorsed explicitly by Graham Bird: “Kant’s argument favours rather the language of discrimination between the multiplicity of things perceived than that of construction out of individual sensations” (*Kant’s Theory of Knowledge* (London: Routledge & Kegan Paul, 1962), 13).

³²⁰ B130.

³²¹ 4:507-508. See also 4:521, 4:342, 8:202-203

³²² 8:209.

conditions of that experience. For he later makes clear that this ‘composite’ presupposes a synthesis:

Now the representation of a composite, as such, is not a mere intuition, but requires the concept of a compounding, so far as it is applied to the intuition in space and time. So this concept (along with that of its opposite, the simple) is one that is not abstracted from intuitions, as a part-representation contained within them, but is a basic concept, and *a priori* at that – in the end the sole basic concept *a priori* which is the original foundation in the understanding for all concepts of sensible objects.

There will thus be as many *a priori* concepts resident in the understanding to which objects given to the senses must be subordinated, as there are types of compounding (*synthesis*) with consciousness, i.e., as there are types of synthetic unity of apperception of the manifold given in intuition.³²³

We can see here a version of Kant’s famous claim that intuitions without concepts are blind, which is here framed as the impossibility of intuiting a composite without the understanding. To represent a composite, which I have argued includes all empirical objects, requires more than mere intuition. Composition implies the putting-together of the various components, i.e. synthesis or an act of spontaneity. The fact of composition is so important that he calls it “in the end the sole basic concept *a priori*, which is the original foundation for all the concepts of sensible objects.” Because we can compose things in a variety of ways, the basic ways in which we do so will be equivalent to “*a priori* concepts resident in the understanding to which objects given to the senses must be subordinated”³²⁴ – in other words, the categories. Thus in Kant’s apparent denials of the simple, it is important to keep track of what kind of “simple” he is rejecting. For he consistently rejects the notion that space is composed of simple parts, and that material

³²³ 20:271.

³²⁴ *ibid.*

bodies are composed of simple parts. But neither of these rejections undermines the notion that a representation is a complex made up of simple appearances.

Kant's claim that from the *Entdeckung* "there are, indeed, everywhere composite things, but that the simple is not to be found in it [sc. the corporeal world] at all" seemingly refers to the Axioms of Intuition which states that "all intuitions are extensive magnitudes."³²⁵ This could be read again as an assertion that intuitions, qua extensive magnitudes, are intrinsically complex rather than simple, and since intuition is a receptive faculty, this complexity is something *given* or *received* by the mind without any synthesis. But such an interpretation would be flatly wrong. For, the proof of the principle argues the exact opposite: intuitions are extensive magnitudes, precisely because they involve a synthesis. Thus Kant writes that:

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).³²⁶

Kant's argument is thus that the perception of any appearance involves the generation of a *determinate* time or space through synthesis and composition. In contrast to the pure forms of space and time, which are wholes that precede their parts, in a determinate space or time the parts actually precede the whole: "I call an extensive magnitude that in which the representation of the parts makes possible the representation of the whole (and therefore necessarily precedes the latter). I cannot represent to myself any line, no matter how small it may be, without drawing it in thought, i.e. successively generating all the

³²⁵ 8:209; B202.

³²⁶ B202

parts from one point, and thereby first sketching this intuition.”³²⁷ Thus the relation of the parts to the whole in the representation of a determinate space is inverted in the representation of the pure form of space. Although the pure form of space does not rely upon any kind of synthesis and is equivalent to the ‘mere receptivity’ of the mind, a representation of a determinate space could not exist without synthesis, i.e. without the understanding.

To conclude this section, there is a good deal of indirect evidence for Kant holding a view akin to perceptual atomism, even though this is a lack of direct evidence. That is to say, Kant’s whole concern with the objective validity of *a priori* judgments is premised upon the notion that complex unities are not *given* but rather *made*. About this Kant is quite explicit: “we can represent nothing as combined in the object without having previously combined it ourselves, and [...] among all representations *combination* is the only one that is not given through objects but can be executed only by the subject itself, since it is an act of its self-activity.”³²⁸ Here Kant is quite clearly within the Lockean-Humean framework according to which combination or complex representations are not received through the senses but rather made by an act of the mind. As I have argued, some synthesis is required even for the representation of complexity, i.e. even for the representation of the manifold as a manifold.

The next question, which we shall pursue in the final chapter, is how such a combination can have objective validity. Before moving on to that question, however, we shall have to address Kant’s transcendental idealism in the next chapter.

³²⁷ B203.

³²⁸ B130.

§5 Conclusion

This chapter represents an initial account of the forms of the understanding for Kant. As I showed in the first section, the very activity of thinking is conditioned upon adherence to the rules of logic, which itself deals with nothing other than the form of the understanding. In line with MacFarlane, I argued that this formality has two senses: it is general, i.e. free of a specific matter or content, and it is constitutive, i.e. one cannot think without this. In §2 I argued that this conception of formality may be traced to the long and broad tradition of Aristotelian syllogistic, and was only later applied to judgment.

The sense in which the formality of logic is constitutive was worked out in §3. There I showed the importance of the priority that Kant gives to judgment as an activity in general *vis-à-vis* conceptualization. Concepts for Kant can only be used in a judgment, and it is only in judgment that concepts can even be generated, i.e. by taking a representation and connecting it to a variety of sensible particulars. I also stressed the importance of unity in a judgment: judgments connect sensible particulars under a concept and they connect lower concepts under higher concepts. But they do so in various ways, or according to various ‘forms.’ These forms of judgment are enumerated in the Table of Categories, but following upon the criticisms of several scholars I argued that we should not take Kant’s table as exhaustive. Nevertheless, I believe we can retain Kant’s conception of judgment as the central activity of the understanding, and still usefully think of it as an activity productive of unity.

In the fourth and final section, I gave an initial account of how this account of judgment can inform the experience of sensible particulars. I have argued that intuiting discrete sensible objects would not be possible if it were not for our powers of

conceptualization and judgment. Without these we would not be able to identify and reidentify sensible qualities and unify them into wholes. In particular, I argued that this can be seen more clearly when we observe that Kant subscribes to a version of perceptual atomism descended from British Empiricism. That is, he thinks of empirical objects as complex wholes. To experience an object, therefore, will require a kind of uniting or synthesizing analogous to that which we find in judgment. But the question of whether this synthesis can count as objective still looms over Kant's account and will be the topic of the next chapter.

Chapter Four: Kant's Formal Idealism

§1 Basic Difficulties in Kant's Doctrine of Appearances

A central claim in the *Critique of Pure Reason* is that all of our cognition concerns mere “appearances” and that we can have no cognition of “things in themselves.”¹ So important is this claim that Kant takes it to be definitive of his own philosophical position:

We have proved in the Transcendental Aesthetic that *everything intuited in space or time, hence all objects of experience possible for us, are nothing but appearances, i.e. mere representations* which, as they are represented, as extended beings or series of alterations, have outside our thoughts no existence grounded in itself. This doctrine I call transcendental idealism.²

The essence of transcendental idealism thus consists in the view that everything that we experience counts merely as “appearances, i.e. mere representations,” and such appearances have “no existence grounded in itself.” Correlatively, one of the faults of all previous philosophers was their mistaken treatment of these appearances as things in themselves. Yet precisely what these claims mean and what they entail have been topics of ongoing controversy ever since the publication of the *Critique*. One of the goals of this dissertation is to seek to offer some clarity and new perspectives on this Kantian position by examining his use of the concepts of form and matter. That these concepts are relevant to Kant's idealism can be seen in his effort to distinguish his position as a “formal” idealism from the “material” idealism to which Kant believes all previous idealists succumbed and which, in Kant's view, fails to establish the reality of objects of the senses.³

¹ See Bxx, A104, B164, A190/B235, *inter alia*, for particularly clear statements of this.

² A490-491/B518-519, italics added. Kant gives a very similar definition of transcendental idealism and transcendental realism at A369.

³ See *Prolegomena* §49 (4:337).

Most discussions of Kant's transcendental idealism take as their starting point concerns about the nature of human cognition. Because we think and sense in such-and-such a way, so the argument goes, the objects that we think and sense must be ideal.⁴ Hence, the validity of Kant's arguments for idealism is determined by the validity of his account of cognition *in general*. Even though this approach harmonizes with much of Kant's own text in fundamental ways, in my view it misses the core philosophical issue. Although there are several explicit arguments that Kant makes *for* idealism in the *Critique*, the real worth of his account stems from the arguments that can be drawn *from* his idealism. In particular, idealism offers the best explanation for the *a priori* truths of certain bodies of knowledge (logic and mathematics) – a view that was broadly taken for granted by Kant and others – and shows the necessary applicability of these bodies of knowledge to the content of experience. To sum it up in a word, idealism is thus what offers the best explanation for the *lawfulness* of experience. Humean skepticism offers the most explicit threat to this lawfulness, and no other philosophy, according to Kant, can respond to its challenge. So the advantage of idealism is not just that there are various pieces of evidence for it, but that it guarantees, at some level, that the empirical world is governed by natural laws that we can know. Kant's account of idealism and his corresponding account of cognition are subservient to this broader aim.

Three caveats are necessary before diving into the body of this chapter. First, due to the complexity of this topic, I will often have to mention or appeal to arguments that Kant makes without providing an assessment or defense of them here. In particular, I

⁴ A good representative of the view that Kant's idealism is grounded in his account of thinking is Henry Allison, who argues that "Kant's idealism depends crucially on his conception of human cognition as discursive" (*Kant's Transcendental Idealism*, 12). By contrast, a good representative of the view that Kant's idealism is grounded in his account of sensation is Lucy Allais who writes that "Kant's central argument for transcendental idealism turns on his notion of intuition" (*Manifest Reality*, 176).

have already examined his arguments regarding space in Chapter Two of this dissertation. In Chapter Three I have examined some of his arguments concerning his account of judgment or the forms of understanding, and in Chapter Five I will continue this discussion with an examination of the Transcendental Deduction. Second, given how much has been written about this topic, it is impossible to come anywhere close to a comprehensive view of the various positions, and I shall have to restrict myself to some of the more notable ones by some of the more prominent scholars. Third, since it is impossible to survey everything that has been written about this topic, any claim to novelty about this topic can only be advanced very cautiously and with the humble admission that one could be unknowingly repeating someone else. Nevertheless, I do believe something of a fresh start can be made, first by addressing some of the textual and philosophical ambiguities that have made these debates so intractable, and secondly by approaching the issue from a slightly different angle, which, as I have said, is the question of lawfulness.

§2 Textual and Philosophical Ambiguities

Many of the difficulties in interpreting Kant's position have to do with his oftentimes idiosyncratic use of terms, and the deep philosophical ambiguities that they entail. To start with the most obvious, 'appearance' ordinarily connotes something false, uncertain, or unreal, as when one says that "It only appears to be so," as opposed to what a thing truly, certainly, or really is. The same connotation is found in Kant's German term *Erscheinung* (appearance), which is derived from *Schein* (illusion, semblance) and not

always clearly distinguished from it.⁵ So when Kant says that all objects of experience are mere appearances, it is not surprising that some have taken this to mean that all objects of experience are mere illusions. Such an interpretation was given in the infamous *Göttingen* review, which has remained something of a historical touchstone of debates about transcendental idealism, and which accused Kant of a Berkeleyan idealism and argued that he reduced all experience to mere illusion. Kant was incensed by this interpretation and strove to refute it. But that is not to say that his efforts convinced everyone. If Kant's claim that we can only know appearances (*Erscheinungen*) meant that we can only know illusions (*Scheine*), then he could rightly be accused of turning reality into a mere illusion. But there is a strong countervailing tendency in the *Critique* to reinterpret appearances to differentiate them from illusions and to understand them as something closer to what is traditionally believed to be reality.⁶ In particular, Kant distinguishes sharply between appearance and illusion (*Erscheinung* and *Schein*),⁷ while identifying the "thing in itself" (a term which otherwise might suggest what a thing *is* as opposed to how it *appears*) with an unknowable, un-experienceable, dialectical thought-entity, which, when taken as something real, is the source of illusion.⁸ Even though these general points are well-known to anyone with the slightest familiarity with Kant, the implications of them are far from settled. If appearance is identified with reality, then it

⁵ According to Vaihinger, these terms were not clearly distinguished in Kant's own time (*Kommentar*, vol. 2, 494). We can find this traditional juxtaposition of appearance and reality in Kant's writings as late as the *Inaugural Dissertation* of 1770, where he wrote that the senses represent things as they appear (*apparent*), while the intellect represents things as they are (*sunt*) (2:392).

⁶ Here's one particularly clear expression of this: "Our transcendental idealism, on the contrary, allows that the objects of outer intuition are real too, just as they are intuited in space, along with all the alterations in time, just as inner sense represents them [...]. Space itself, however, together with time, and, with both, all appearances, are *not things*, but rather nothing but representations, and they cannot exist at all outside our mind" (A491/B520).

⁷ B69-70; A293-294/B349-350.

⁸ See, e.g. A396, A507/B535. Of course, this does not deny that the thing in itself still has a legitimate regulative or practical use, but to address this would go beyond the scope of the dissertation.

may seem entirely trivial to claim that all we can know are mere appearances and that we cannot know things in themselves (since they are, by definition, unknowable).⁹ In this way, transcendental idealism turns out to be much more conventional than it appears at first blush. But, if reality is identified with appearance, this could be taken to mean that some crucial element of reality is lost, such that it becomes difficult or impossible to distinguish it from illusion (*Schein*).¹⁰

The debate about these implications has continued ceaselessly for the past two and a half centuries.¹¹ Under different names, the accusation has persisted that, having established the *ideality* of objects of experience, Kant failed to establish their *reality* as well: in the 19th century, readers called Kant a ‘subjectivist’ or ‘subjective idealist.’¹² In the 20th century and up to today, the term ‘phenomenalist’ has come to be preferred for essentially the same position.¹³ But these are not always disparaging labels. Thus some

⁹ The accusation of triviality was notably made by Langton against Henry Allison’s interpretation of transcendental idealism (Langton, Rae, *Kantian Humility* (Oxford: Clarendon, 1998) 7-11) and by Van Cleve (*Problems from Kant* (New York and Oxford: Oxford University Press, 1999) 7-8). Allison responds to these two in the second edition of *Kant’s Transcendental Idealism* (17-18, 42-45). Stang (“Kant’s Transcendental Idealism,” *Stanford Encyclopedia of Philosophy*, first published March 4, 2016, <https://plato.stanford.edu/entries/kant-transcendental-idealism/>) disagrees with Allison’s specific response but offers an alternative one on his behalf. Another critique of trivializing interpretations of transcendental idealism is made by Lucy Allais (*Manifest Reality*, 82-83). The alleged triviality of transcendental idealism is seemingly embraced by Arthur Collins, who argues that transcendental idealism is not genuinely idealism and that Kant is actually a realist (Collins, Arthur, *Possible Experience* (Berkeley and Los Angeles: University of California Press, 1999), 2).

¹⁰ This is how Kant was interpreted in the Göttingen review, and a similar view has been expressed by Paul Guyer, who says that transcendental idealism “degrade[s] ordinary objects to mere representations of themselves, or identif[ies] objects possessing spatial and temporal properties with mere mental entities” (*Kant and the Claims of Knowledge*, 335).

¹¹ Allais has recently described this as a pendulum swinging back and forth between extremes (*Manifest Reality*, 3). A similar assessment of earlier scholarship can be found in Ameriks, Karl, “Kantian Idealism Today,” *History of Philosophy Quarterly* 9, no. 3: 329-342.

¹² Beiser points out that this was the predominant view of Kant in the decades after the publication of the first *Critique* (*German Idealism*, 48).

¹³ It is unclear when exactly this terminological shift occurred, but some rough parameters can be established. In his *Commentary to Kant’s Critique of Pure Reason* published in 1923, Kemp Smith still used ‘subjectivism’ to designate the Berkeleyan position that Kant (in his better moments, according to Kemp Smith) rejected for a ‘phenomenalism’ which Kemp Smith regarded as the “genuinely Critical” position (*ibid.*, xlv). By the early 1960s, Graham Bird (*Kant’s Theory of Knowledge*, 1-12) and Strawson

argue that Kant *does* subscribe to phenomenalism and that this is a good thing;¹⁴ others that it is a bad thing.¹⁵ Some argue that Kant *does not* subscribe to phenomenalism and that this is a good thing;¹⁶ others that it is a bad thing.¹⁷ Still others argue that Kant is inconsistent, and expresses both a phenomenalist and a non-phenomenalist position (usually seeing the latter in a more positive light).¹⁸

The ambiguities surrounding the concept of “appearance” and other terms are reflected in numerous (potentially) conflicting statements in Kant’s writings, which often force a commentator to take one or another to be decisive. It has become a somewhat common practice for scholars to line up a sample of passages that they take to be key for their own interpretation somewhere near the beginning of their monographs. Let us consider the conflicting passages adduced by two scholars to see how different texts may

(*The Bounds of Sense*, 248 ff.) were attacking Kant-cum-Berkeleyan-idealist, but now under the name of phenomenalism.

¹⁴ E.g. Schulting, Dennis, *Kant’s Radical Subjectivism* (Cham: Palgrave MacMillan, 2017); Van Cleve, *Problems from Kant*; de Vleeschauwer, *La déduction transcendentale*, Vol. 2, 383-385; Förster, Eckart, “Kant’s Refutation of Idealism,” in *Philosophy, Its History and Historiography*, ed. A.J. Holland (Dordrecht: D. Reidel, 1985), 287-296. Förster does see some significant differences between Berkeley and Kant but thinks that Kant’s efforts to refute Berkeley pushed him into a more full-fledged idealism (see *ibid.*, 302).

¹⁵ E.g. Hegel, *Faith and Knowledge*; Paul Guyer, *Kant and the Claims of Knowledge*.

¹⁶ E.g. Bird, *Kant’s Theory of Knowledge*, esp. 1-17; Pippin, *Kant’s Theory of Form*, esp. 188-193; Collins, *Possible Experience*, esp. 20-25; Allison, *Kant’s Transcendental Idealism*; Allais, *Manifest Reality*, esp. 37-58. See also Deleuze, Gilles, *Kant’s Critical Philosophy*, trans. Hugh Tomlinson and Barbara Hammerjam (London: Athlone Press, 1984) 14: “It would seem that the problem of the subjection of the object [to the subject] could easily be resolved by a subjective idealism. But no solution is further from Kantianism. Empirical realism is a constant feature of Kantian philosophy.”

¹⁷ E.g. Wilson, Margaret D., “The ‘Phenomenalisms’ of Berkeley and Kant, in *Ideas and Mechanism: Essays on Early Modern Philosophy* (Princeton: Princeton University Press, 1999). Another reader in this category (though less neatly so than the previous) is Tom Rockmore, who argues that there is a representationalist tendency in Kant which is, in his view, correctly rejected by Berkeley and later German Idealists. But Rockmore also sees a constructivist tendency in Kant, of which he approves, unlike those whom I mention in the next footnote. See Rockmore, Tom, *Kant and Idealism* (New Haven: Yale University Press, 2007), 36, 41-47, 105-106.

¹⁸ E.g. Kemp Smith, *A Commentary to Kant’s Critique of Pure Reason*; Strawson, *The Bounds of Sense*. Someone else who I believe fits into this category, albeit less neatly, is Westphal, Kenneth, *Kant’s Transcendental Proof of Realism* (Cambridge: Cambridge University Press, 2004) who sees Kant’s transcendental idealism as distinct from Berkeley’s (*ibid.*, 110-111), but still insufficient to justify empirical realism (*ibid.*, 127). Nevertheless, Westphal finds arguments in Kant, which he believes are separate from his transcendental idealism, which would justify empirical realism (*ibid.*, 228-268).

justify opposing interpretations. Van Cleve cites the following passages (among others) as evidence for a phenomenalist interpretation of Kant:¹⁹

Appearances themselves are nothing but sensible representations, which must not be regarded in themselves, in the same way, as objects (outside the power of representation).²⁰

Appearances do not exist in themselves, but only relative to the same being [i.e. the subject] insofar as it has sense.²¹

A proposition which must of course sound peculiar is that a thing can exist only in the representation of it; but it loses its offensive character here, because the things with which we have to do are not things in themselves but only appearances, i.e., representations.²²

The objects of experience are never given in themselves, but only in experience, and they do not exist at all outside it.²³

In Van Cleve's view, all of these examples show straightforwardly that Kant is a phenomenalist, i.e. that "things in space and time have no existence apart from being represented by us."²⁴ By contrast, Allais cites the following passages to argue for the opposite interpretation:

Even if we cannot cognize these same objects as things in themselves, we must at least be able to think them as things in themselves. For otherwise there would follow the *absurd* [Allais' italics] proposition that there is an appearance without anything that appears.²⁵

It... follows naturally from the concept of an appearance in general that something *must* correspond to it which is not in itself appearance, for appearance can be nothing for itself and outside our kind of representation; thus, if there is not to be a constant circle, the word "appearance" must already indicate a relation to something the immediate representation of which is, to be sure, sensible, but

¹⁹ Van Cleve, *Problems from Kant*, 6-7.

²⁰ A104.

²¹ B164.

²² A374-375.

²³ A492/B521.

²⁴ Van Cleve, *Problems from Kant*, 7.

²⁵ B xxvi

which in itself, without this constitution of our sensibility... must be something, i.e. an object independent of sensibility.²⁶

The understanding therefore, by assuming appearances, grants also the existence of things in themselves, and thus far we may say that the representation of such things as are the basis of appearances... is not only admissible but unavoidable.²⁷

From such texts, Allais argues that “the notion of appearances implies things which appear,”²⁸ which, she goes on to argue, means that there must be some aspect of objects which exist outside our sensible representations, and thus have an existence outside of or independent of the mind. For these reasons, she concludes that Kant is *not* a phenomenalist. It is not yet the place to adjudicate these conflicting interpretations,²⁹ nor do I wish to give the impression that either of these scholars takes these passages as *sufficient* for their respective interpretations. My point is just that Kant’s own statements of his basic claims evince conflicting tendencies, and there is ample opportunity for someone to take one set of claims as a foothold for an interpretation while minimizing or dismissing others.

The issue with Kant’s transcendental idealism is more than textual, however. For, the question of *whether* we should treat empirical objects as mere appearances and not as things in themselves requires interpreting *what it means to be* an appearance or a thing in itself. Kant himself is not particularly forthcoming about this. Despite the commonplace juxtaposition of appearance and reality, when Kant claims that all objects of experience are mere appearances, he wants to argue simultaneously that these appearances are *real*. In a similar vein, he argues vociferously against a Cartesian idealism, which would hold

²⁶ A251-252.

²⁷ *Prolegomena*, 5:315.

²⁸ Allais, *Manifest Reality*, 43-44.

²⁹ I discuss some of the arguments putatively establishing the necessity of things in themselves in the Coda to this chapter.

that the reality of perceptual objects is doubtful, such that they may be mere dreams or illusions, whereas Kant holds that perceptual objects are just as the senses represent them to be.³⁰ Moreover, for Kant, we are able to distinguish an empirical object from the contingent *way* that we represent that same object – roughly, as a non-Kantian might say, the way a thing ‘is’ from the way that it ‘appears’ to us.³¹ When these arguments are taken into account, there would seem to be few features that differentiate a Kantian appearance from what is usually taken to reality. Hence a commentator like Arthur Collins may understandably be led to the belief that Kantian idealism is rather minimal, writing that “Kant is not an idealist, and ‘transcendental idealism’ is a misleading title for his Kant’s philosophy in so far as it seems to advertise a thesis that merely corrects the errors of the defective versions of idealism Kant expressly refutes.”³² After all, in Kant’s own words, appearances are real and not illusions; we can distinguish the way that we subjectively represent them from the way that they (in some sense) non-subjectively are. Nevertheless, in the same breath, Kant will often insist these objects are still mere representations, have no existence in themselves, and only exist in relation to possible experience. For instance, shortly after writing that “the objects of outer intuition are real too, just as they are intuited in space, along with all alterations in time, just as inner sense

³⁰ A491/B520 quoted above. He also takes explicit aim at Cartesian idealism in the Refutation of Idealism (B274).

³¹ Thus in the Transcendental Deduction Kant argues that when we combine two representations in a *judgment*, we assert that “these two representations are combined in the object, i.e. regardless of any difference in the condition of the subject, and are not merely found together in perception” (B142). Similarly, in the Analogies of Experience, Kant argues for the importance of our being able to distinguish a “subjective sequence of apprehension” from an “objective sequence of appearances” (A192/B238). See also A45/B62 ff., where he distinguishes between an appearance in the empirical sense and an appearance in the transcendental sense.

³² Collins, Arthur, *Possible Experience*, 2. Though this claim may sound crass at first, it relies on Collin’s subtle account of how something can be subjective without being ideal or a mere mental item (see *ibid.*, 16-19).

represents them,”³³ he adds that “space itself, however, together with time, and, with both, all appearances, are *not things*, but rather nothing but representations, and they cannot exist at all outside our mind.”³⁴ To work through these ambiguities in Kant’s position, it is necessary to dispense with the facile ordinary distinctions between appearance, representation, reality, and illusion and examine how they unfold in an original manner.

These difficulties do not merely affect a reading of Kant’s own text but rather affect any attempt at classifying a philosophical position. For, the terms by which a philosophical position is defined are themselves philosophically contested. This is particularly true in the case of Kant who reinterprets many of the fundamental concepts of philosophy. For example, realism is often defined by the claim that objects exist outside the mind or independently of it. But ‘object,’ ‘existence,’ ‘outside,’ and ‘independent’ are all terms that are problematized by Kant’s transcendental idealism, with each having a potentially idealist or non-idealistic signification. Such ambiguities infiltrate any statement about what it means for something to be ‘real,’ ‘true,’ ‘external,’ ‘material,’ ‘actual,’ ‘outside us,’ or to ‘correspond’ to our representations. This complicates any attempt to classify Kant’s position in one way or another. Readers sympathetic to a realist interpretation tend to take a statement where Kant purports to show, e.g., the ‘externality’ of something as evidence that he believes that we can know something beyond appearances or representations, even though one may quite easily find another passage where that same thing (e.g. ‘externality’) is interpreted in an idealistic

³³ A491/B520.

³⁴ A492/B520.

manner. Consider what Robert Pippin (an otherwise subtle and nuanced reader of Kant) has to say about Kant's expression "representation of an object":

It is true that Kant proposes a theory according to which "representation of an object" *is* "the synthesis of representations according to a rule," but there is no reason to take that to mean that knowledge of external objects is synthesized knowledge of mental items. The representations in question, if the context is representations of an external object, are still representations of outer sense.³⁵

Pippin thus argues, against Kant's overt statement, that an object cannot be simply a synthesis of representations because Kant calls such objects "external" and says that they are representations of "outer" sense. Externality is thus taken by Pippin to be mutually exclusive with representations, which are mere "mental items" and thus within the subject. According to Pippin, without a clear distinction between inner sensations and outer objects, Kant would fall back into exactly the kind of empirical idealism that he criticizes.³⁶ Of course, Pippin's inference overlooks the fact that Kant distinguished between an empirical and transcendental sense of "outside," so that the same object may be considered empirically outside us, while transcendently inside us. For this reason, (empirical) externality and (transcendental) ideality are not mutually exclusive for Kant, so that describing an object as external does not preclude it from being a "mental item." By collapsing the two senses of "external," Pippin forces Kant into an artificial dilemma between empirical idealism and a non-phenomenalistic idealism, and decides in favor of the latter.

Let me state a few of these difficulties for a realist interpretation in a provisional manner. In the B deduction, Kant gives a peculiar definition of an object: "an object,

³⁵ *Kant's Theory of Form*, 192 n.6.

³⁶ *Ibid.*, 191-192.

however, is that in the concept of which the manifold of a given intuition is united.”³⁷ An object is thus defined by reference to the content of intuition and not by its being external to our mind. Similarly, in the Postulates and his refutation of the ontological argument, Kant defines existence in terms of the connection of an object to a possible perception.³⁸ He argues in the A edition of the *Paralogisms* that the phrase “outside us” has two possible meanings: either outside us transcendently (i.e. as a thing in itself) or outside us empirically (i.e. as something in space), and suggests that while many things are outside us in the second sense, nothing that we can know is outside us in the first sense.³⁹ Lastly, because Kant distinguishes the form and matter of an appearance, it is possible for something to be independent of the mind in one respect (according to its matter), while dependent on it in another respect (i.e. according to its form).⁴⁰ Thus Kant argues that *a priori* representation is independent of the matter of experience,⁴¹ but it is not entirely independent of the mind, because such cognition is still dependent on the forms of intuition and understanding. Furthermore, *a priori* representations are supposed to underlie all a posteriori representations, so that all empirical representations are dependent on the mind in respect to their form. All of these passages pose a serious difficulty for those who advance a realist interpretation of Kant, both because they complicate the basic terms by which realism is defined (externality, existence, independence), and because the complications that they entail tend in an idealist direction.

³⁷ B137.

³⁸ See A225/B272 ff., and A598/B626 ff.

³⁹ A373.

⁴⁰ See, e.g. *Lectures on Metaphysics*, 29:928-929.

⁴¹ See A1-2 and B1-2 for clear statements of *a priori* cognition being independent of experience.

But there are similar difficulties facing idealist interpretations of Kant. Even though Kant describes his own position as an idealism, he repeatedly tries to distance himself from other idealists and asserts that his position alone is capable of maintaining a consistent empirical realism. He reacted harshly to the infamous Göttingen review of the *Critique* in 1782 that ascribed to him the view that “everything of which we know and say something is merely representation and law of thought,” and that compared him unfavorably to Berkeley.⁴² Kant openly opposed this interpretation in the *Prolegomena* and made changes in the second edition of the *Critique*, including his addition of the Refutation of Idealism, to obviate it. Against those contemporaries of Kant who sought to assimilate him to other idealists, Kant continually emphasized the limited nature of his own idealism and the importance of establishing empirical realism. But despite his best intentions, many careful and sympathetic readers have argued that Kant fails to distinguish himself from a Berkeleyan idealism.⁴³

There are thus serious interpretative and philosophical challenges: when it comes to Kant’s doctrine of appearances, there is conflicting evidence about what Kant *intended* to argue, and there is the possibility that his actual arguments show something *other than what he intended*. For these reasons, it is no surprise that debates about transcendental

⁴² *The Göttingen Review* in *Kant’s Early Critics*, ed. and trans. Brigitte Sassen, 58. The comparison to Berkeley occurs on p. 54.

⁴³ For example, Turbayne, Colin, “Kant’s Refutation of Dogmatic Idealism” *The Philosophical Quarterly*, 5, no. 20 (Jul., 1955): 225-244; Strawson, *The Bounds of Sense*, 7-11, esp. 10: “the doctrine that the material and the mental constituents of the natural world are alike only appearances turns out, in the end, to bear with unequal weight on bodies and states of consciousness. Kant, as transcendental idealist, is closer to Berkeley than he acknowledges.” Paul Guyer similarly writes that Kant “degrade[s] ordinary objects to mere representations of themselves, or identif[ies] objects possessing spatial and temporal properties with mere mental entities” (*Kant and the Claims of Knowledge*, 335). Kemp Smith argues that Kant is ultimately torn between Berkeleyan idealism and non-Berkeleyan idealism and fails to decisively reject the former despite his best intentions (*Commentary*, 270-284). Beiser argues that the predominant view of Kant in the decades after the publication of the first *Critique* was that he was a subjective idealist (*German Idealism: The Struggle against Subjectivism: 1781-1801*, 48). Vaihinger documents the various 19th-century commentators who also affirmed a similarity between Kant and Berkeley (*Kommentar*, Vol. II, 494-505), though Vaihinger himself denies the similarity (*ibid.*, 500-501).

idealism have remained unsettled over the past two hundred and fifty-odd years. If any progress is to be made, it is necessary to try to get to the root of the ambiguities and to attempt to understand what philosophical tendency is motivating them, even when Kant himself is not especially clear or explicit about it.

§3 A Fresh Start

We can make a rough start by noting that to be an appearance means for Kant just to be something sensible. In numerous passages, Kant treats being sensed and being an appearance as equivalent terms, and offers clarifications along the lines of: X is something sensible, i.e. an appearance; or Y is an appearance, i.e. something sensible.⁴⁴ But obviously “being sensible” and “being an appearance” are not synonymous. If Kant’s claim that we can know mere appearances meant simply that we can only know sensible objects, his position would be scarcely different from the empiricists who preceded him. To claim that the sensible is a mere appearance implies something more. Specifically, as we saw at the start of this chapter, an appearance lacks an “existence grounded in itself” (*an sich gegründete Existenz*) or a “self-subsistent existence” (*für sich bestehende Existenz*).⁴⁵ Or, as Kant says elsewhere, “external objects (bodies) are merely appearances, hence also nothing other than a species of my representations, whose objects are something only through these representations, but are nothing separated from them.”⁴⁶ To claim that the sensible is a mere appearance is thus to deny it an independent

⁴⁴ See e.g. B xxv, A26-27/B42-43, B69, A92/B125, A165/B207, A181/B225, B306, *Prolegomena* §52c (4:341-342), §13 Note III (4:290). In some of these instances, Kant uses ‘intuitable’ or ‘perceivable’ instead of ‘sensible.’ Although Kant does not treat all these terms as equivalent, their distinction is not relevant to his broader concern of differentiating what is and is not an appearance.

⁴⁵ A491/B519, *Prolegomena* §52c (4:342)

⁴⁶ A370.

existence that had long been taken for granted. It is only “through the mind” that the sensible exists and it is “nothing” when separated from our representations. So in claiming that the sensible is equivalent to appearance, Kant denies that the sensible has any existence outside of its relation to what senses, i.e. to the mind.

What are the actual arguments for such an identification? The simplest is perhaps a negative argument, given in a paraphrase by Reinhold: “The thing in itself is not *representable*; how can it be *cognizable*?”⁴⁷ In other words, we cannot cognize the thing in itself because we cannot represent the thing in itself, and we cannot represent it because, if we did, it would no longer be “in itself” but rather in relation to the mind. But as Karl Ameriks has repeatedly pointed out, although such arguments were commonplace *after* Kant, Kant himself never actually makes such a “short” argument for idealism based on the general features of representation.⁴⁸ Instead, he argues more narrowly from the specific features of our spatiotemporal cognition, particularly the possibility of *a priori* cognition. For example, in the first chapter of the *Prolegomena*, Kant gives his familiar account of mathematics as a body of intuitive *a priori* cognition, and then asks how we can intuit features of an object before the object is actually given in intuition. He offers an answer in *reductio ad absurdum*, which I’ll split into three steps:

⁴⁷ Reinhold, Karl Leonhard, *Essay on a New Theory of the Human Capacity for Representation*, trans. Tim Mehigan and Barry Empson (Berlin: De Gruyter, 2011), 119 (II.255).

⁴⁸ See Ameriks, Karl, “Idealism from Kant to Berkeley” in *Kant and the Historical Turn* (Oxford: Oxford University Press, 2006) 67-88; and Ameriks, “Kant, Fichte, and Short Arguments to Idealism,” *Archiv für Geschichte der Philosophie* 72:1 (1990): 63-85. Ameriks’ criticism is that such a short argument is based upon the general features of representations, and overlooks Kant’s rather complex arguments in the *Transcendental Aesthetic* that seek to establish *first* the ideality of space and time, and only *then* the ideality of spatio-temporal objects (see “Idealism from Kant to Berkeley,” 69-70). Ameriks’ fear is that the short argument to idealism offers a way to bypass Kant’s restriction of theoretical knowledge to spatiotemporal objects, and, as a result, undermine his doctrine of practical freedom (see “Kant, Fichte, and Short Arguments to Idealism,” 64-69). However, to assess this latter claim is out of the scope of this dissertation.

1. If our intuition had to be of the kind that represented things *as they are in themselves*, then absolutely no intuition *a priori* would take place, but it would always be empirical. For I can only know what may be contained in the object in itself if the object is present and given to me.⁴⁹
2. There is therefore only one way possible for my intuition to precede the actuality of the object and occur as an *a priori* cognition, *namely if it contains nothing else except the form of sensibility, which in me as subject precedes all actual impressions through which I am affected by objects*.⁵⁰
3. Therefore it is only by means of the form of sensory intuition that we can intuit things *a priori*, though by this means we can cognize objects only as they appear to us (to our senses), not as they may be in themselves; and this supposition is utterly necessary, if synthetic propositions *a priori* are to be granted as possible, or, in case they are actually encountered, if their possibility is to be conceived and determined in advance.⁵¹

Notably, Kant's conclusion is based on the *presupposition* of *a priori* cognition, and it is a good example of his abductive reasoning for transcendental idealism.⁵² That is, there is something that he takes to be true (that we have *a priori* cognition, specifically mathematical cognition) and he seeks to offer the best explanation for it following one of his typical "how is X possible" questions.⁵³ I have already discussed Kant's view of mathematics as an *a priori* body of knowledge in Chapter Two, and won't repeat myself here. In any case, the conclusion that we can cognize only appearances is supposed to be

⁴⁹ *Prolegomena*, 4:282 (§9).

⁵⁰ *Prolegomena*, 4:282 (§9).

⁵¹ *Prolegomena*, 4:283 (§10).

⁵² Kant alludes to this same kind of argument when introducing his famous Copernican experiment in the Introduction to the B edition: "If intuition has to conform to the constitution of objects, then I do not see how we can know anything of them *a priori* [!]; but if the object (as an object of the senses) conforms to the constitution of our faculty of intuition, then I can very well represent this possibility to myself." B xvii. The same touchstone of *a priori* cognition is given in the Conclusions to the Transcendental Aesthetic where Kant offers his first argument for transcendental idealism in the body of the Critique (A26/B42).

⁵³ The three quotations above are taken from the first part of the *Prolegomena* entitled "How is pure mathematics possible?" In its first section, Kant refers to mathematics as "a great and proven body of cognition" (*eine große und bewährte Erkenntniß*). Similarly in the Preface to the B edition of the Critique, he refers to mathematics and physics as "two theoretical cognitions of reason that are supposed to determine their objects *a priori*" (B x). See also his remark in the Introduction: "Now it is easy to show that in human cognition there actually are such necessary and in the strict sense universal, thus pure *a priori* judgments. If one wants an example from the sciences, one need only look at all the propositions of mathematics" (B4).

the only explanation for how *a priori* cognition is possible, since if we were to cognize things in themselves, such cognition would depend on the presence of the object and could only be *a posteriori*. Kant's equation of the sensible with appearance does not begin with a particular conception of the sensible as such but rather follows from a need to demonstrate the possibility of *a priori* knowledge.

Kant thus argues *from* the actuality of *a priori* cognition *to* a conception of objects as appearances. The former implies the latter. With the exception of Karl Ameriks, whom I have already mentioned, this presupposition of *a priori* cognition has largely been overlooked by many of the recent prominent commentators in ways that obscure some of the actual aims and limitations of the theory. Henry Allison, for instance, takes Kant's transcendental idealism to be fundamentally based on the discursivity of the human intellect *in general*, i.e. regardless of whether it cognizes *a priori* or *a posteriori*.⁵⁴ Seemingly taking the opposite view, Lucy Allais argues that Kant's idealism is based on his conception of intuition, specifically the way in which intuition presents us with (in Allais' terms) "essentially manifest qualities," i.e. qualities which "belong only to the perceptual appearing of objects" and "are features of the way objects appear to us and nothing but such features."⁵⁵ In this way, her argument is based on the *general* features of intuition rather than on the specific capacity for *a priori* cognition.

This neglect of the importance of *a priori* cognition for Kant's transcendental idealism ends up distorting some of the aims and significance of that idealism. For, the *a priori* has to do not only with a particular kind of knowledge but also with a conception

⁵⁴ See his articulations of the discursivity thesis and its assumptions in *Kant's Transcendental Idealism*, 11-13, 77.

⁵⁵ Allais, *Manifest Reality*, 117.

of how the empirical world must be in order for us to achieve a particular kind of knowledge. In the Introduction Kant gives necessity and universality as the two criteria for *a priori* cognition.⁵⁶ But we would not be able to have universal and necessary cognition unless the empirical world contained something universal and necessary for us to know. To make a broad generalization, in nearly all philosophies prior to Kant, there was a widespread assumption that this universality and necessity was characteristic of what is outside the mind, while the mind is something contingent and particular. What is outside the mind is what is in itself, universal, and necessary. The question of how we can know what is universal and necessary took the form of how can we know what is *outside* the mind. It is common in presentations of Kant's transcendental idealism, and his own self-presentations, to say that Kant rejects this framework by denying the possibility of knowing what is transcendently (in Kant's terms) outside us and turning the empirical world into something that is transcendently in us. But this misses the real heart of the doctrine. Kant's ingenuity was not just to distinguish between the transcendental and empirical, but, more importantly, to offer a subjective basis for universality and necessity. What previous philosophies erroneously sought in the "in itself" can truly and only be found in us.⁵⁷

To see this, let us adopt an opposing view, that of a realist position. Such a view would quite readily concede that the *perception* of an object, a tree, for example, is a mere appearance and has no existence grounded in itself, because it is merely a modification of one's own mind. But it would deny that the tree itself is a mere appearance. The realist would readily agree that my perception of the tree is variable: I

⁵⁶ B3-4.

⁵⁷ I believe that this is the reason for Kant's dismissal of knowledge of things in themselves. See the Coda of this chapter for further discussion.

see different parts of it from different points of view; if I avert my gaze, it disappears from my perception, and reappears if I look back at it. Furthermore, my perception of it seems to be something private: others may be able to perceive the tree, but they cannot perceive *my* perception of the tree. But the realist would draw the line at asserting that *the tree* that we perceive is a mere appearance and has no existence grounded in itself. After all, the tree is putatively a public object, which can be perceived by other people even when I am not perceiving it. The tree seems to be unaffected by my perception or non-perception of it, and it appears to adhere to regular natural laws, such that whatever changes happen to it – e.g. the patterns of its growth, the season in which it blooms, the pests and diseases to which it is susceptible – can be known and empirically studied. A simple way to sum up these differences – again, from a realist viewpoint – would be to say that the tree is something “objective” or “real” while my perception is something “subjective” and “ideal.” On this account, externality is the crucial criterion for distinguishing what is real from ideal. The tree counts as something objective precisely *because* it is something external to my mind and the contingencies of my experience, such that objectivity, reality, and lawfulness are all bound together with their being external to the mind. For this reason, to claim that what is real is a mere appearance would seemingly be absurd.

To challenge this realist account, we can ask: are objectivity, reality, and lawfulness bound to externality in this way? Kant’s answer is that they cannot be. The weakness of the realist account is that externally and independently existing objects are supposed to be the *cause* of our internal perceptions. Conversely, the existence of these external objects is supposed to be *inferred* from our internal perceptions, but there is no

guarantee that our perceptions are actually caused by those external objects. When Kant offers his general critiques of transcendental realism in the A edition of the Paralogisms and the Refutation of Idealism in the B edition, it is precisely this inference from an inner perception to and outer existence that he attacks. As Kant writes, “the inference from a given effect to its determinate cause is always uncertain, since the effect can have arisen from more than one cause. Accordingly, in the relation of a perception to its cause, it always remains doubtful whether this cause is internal or external, thus whether all so-called outer perceptions are not a mere play of our inner sense, or whether they are related to actual external objects as their cause.”⁵⁸ For this reason, a realist account of cognition cannot avoid the risk that the reality of external objects is doubtful, as is the causal connection between those objects and our perceptions of them. It is difficult to eliminate the possibility that our perceptions may be the mere play of inner sense (or a dream or the delusions caused by a Cartesian demon) rather than genuinely caused by the objects they purport to represent.

This problem afflicts the theories of cognition that were so prominent in Kant’s time, now often gathered under the name of “representationalism.” This is the view that the mind is first and foremost acquainted with representations that are “inside” it, as opposed to the objects putatively “outside” the mind so that the “external” objects are only known *indirectly*, i.e. through the “internal” representations.⁵⁹ Such a view is

⁵⁸ A368. Kant repeats the maxim that we cannot infer determinate causes from given effects at B276. To avoid this problem in his own account of cognition, Kant’s strategy is to argue that the reality of our perceptions is determined not by their causal origin, but by their lawfulness. I shall examine this below. He also develops a complex argument that our immediate experience is not of inner perceptions, but of outer objects (qua appearances) and that our inner experience is mediated only through our outer experience (see A370-371 and B275-277). The details of this argument are outside the scope of this chapter.

⁵⁹ For some representative statements of this see Malebranche, Nicholas, *The Search After Truth*, trans. and ed. Thomas M. Lennon and Paul J. Olscamp (Cambridge: Cambridge University Press, 1997), 217 (Book III, Part Two, Chapter 1); Locke, *Essay*, IV.i.1; Hume, *A Treatise of Human Nature*, 1.2.6.7;

sometimes ascribed to Kant, though I shall dispute this below.⁶⁰ Even before Kant, Hume recognized the skeptical implications of it:

Now since nothing is ever present to the mind but perceptions, and since all ideas are deriv'd from something antecedently present to the mind; it follows, that 'tis impossible for us so much as to conceive or form an idea of any thing specifically different from ideas and impressions. Let us fix our attention out of ourselves as much as possible: Let us chance our imagination to the heavens, or to the utmost limits of the universe; we never really advance a step beyond ourselves, nor can conceive of any kind of existence, but those of perceptions, which have appear'd in that narrow compass.⁶¹

Any *idea* we have of something external to the mind is still an *idea*, so it is vain to try to *perceive* something that is not a *perception* or to *represent* something that is not a *representation*. For this reason, it is impossible, as Hume says, to grasp something that is *specifically* different (i.e. a different *species* than) ideas and impressions. The relationship between the mind and the world turns into a relationship between the mind and its own representations. In this respect, Hume is not exactly the transcendental realist that Kant (and Kantian scholars) sometimes make him out to be.⁶² Nevertheless, as I have been arguing, the crucial characteristic of transcendental idealism is not the ontological status of empirical objects (although this is one characteristic of it), but rather a concern to

⁶⁰ For an account of Cartesian representationalism and its influence on Kantian idealism, see Rockmore, *Kant and Idealism*, 29-41. In Rockmore's view, Kant's "official" theory is representationalist (*ibid.*, 36), but Kant also has an "unofficial" constructivist theory that Rockmore finds more philosophically appealing. Paul Abela similarly sees Kant's philosophy as a reaction to Cartesian representationalism, though he argues that Kant is a direct realist rather than a constructivist (Abela, Paul, *Kant's Empirical Realism* (Oxford: Clarendon Press, 2005) 26-32). A view similar to Abela's is espoused by Westphal, Kenneth, *Kant's Transcendental Proof of Realism*, 12-14. For other accounts see, Allison, Henry, "Kant's Critique of Berkeley," *Journal of the History of Philosophy* 11, no. 1 (Jan. 1973): 46-47; Kitcher, *Kant's Transcendental Psychology*, 70-72 (Kitcher prefers the term 'simulacra theory' to representationalism).

⁶¹ Hume, *A Treatise of Human Nature*, I.ii.8. Hume makes a similar claim at *ibid.*, I.iv.4-5.

⁶² See *Critique of Practical Reason*, 5:53. Most notable among these scholars is Henry Allison, *Kant's Transcendental Idealism*, 26-27. In agreement with the view I'm suggesting here is Waxman, Wayne, *Kant and the Empiricists: Understanding Understanding* (Oxford: Oxford University Press, 2005), 454-455, 467n8. According to Beiser (*German Idealism: The Struggle Against Subjectivism, 1781-1801*, 43-49), Kant saw Hume as a transcendental realist because Kant was only aware of Hume's *Enquiry*, and not the *Treatise*, which expresses a more expansive skepticism than the *Enquiry*.

explain the possibility of *a priori* knowledge.⁶³ This *a priori* knowledge ought to explain the possibility of *a posteriori* lawfulness. In that respect, there is a wide gap between Kant and Hume. Kant admits quite readily that others before him believed that the empirical world is a mere appearance, which should indicate that this is not the actual matter of contention.⁶⁴

In my view, the essence of the Kantian position is that the crucial criterion of reality is not its externality, but rather its *lawfulness*.⁶⁵ If the things that we perceive were not subject to certain basic laws and regularities, then it would not be possible to perceive an object *as* an object. Nothing would be an object *for us*. Rather, everything would be like the protean cinnabar that is sometimes red, sometimes black, sometimes light, and sometimes heavy.⁶⁶ In order to know that an object exists while I am not perceiving it, the object must be subject to certain cognizable *laws*, such as the principle of causality and the conservation of matter. If objects are public and accessible to other minds, this is because we presume that their sensible qualities are *regular* and do not have widely disparate effects on different minds. Furthermore, regularity and lawfulness provide a touchstone for (empirical) externality: the way that we know that an object is external to

⁶³ This is one of the major goals of transcendental idealism. The other major goal is to limit metaphysical speculation and put to rest the irresolvable conflicts of reason that he addresses in the Transcendental Dialectic. On these two aims of transcendental idealism, see B xxiv ff.

⁶⁴ *Prolegomena*, 4:374.

⁶⁵ I am unaware if Kant ever put it in quite this way, or connected together the arguments that I go on to make in this paragraph. I admit to taking inspiration from his remark that “the difference between truth and dream, however, is not decided through the quality of representations that are referred to objects, for they are both the same, but through their connection according to rules that determine the combination of representations in the concept of an object, and how far they can or cannot stand together in one experience” (*Prolegomena*, §12 Note III (4:291)). Another passage where my view is implied is “our thought of the relation of all cognition to its object carries something of necessity with it, since namely the latter is regarded as that which is opposed to our cognitions being determined at pleasure or arbitrarily rather than being determined *a priori*” (A104). There is also his remark in the Refutation of Idealism that “Whether this or that putative experience is not mere imagination must be ascertained according to its particular determinations and through its coherence with the criteria of all actual experience” (B279).

⁶⁶ A100-101, see my discussion of this passage in Chapter 3, Section 4.

the mind and not a mere play of inner sense is that the laws of nature dictate that for an object to disappear when we close our eyes (supposing that there is no other cause of its disappearance) would violate the principle of causality, that the changes that occur to the object are generally regular, and that other humans can testify to its existence. Hence, lawfulness rather than externality is the genuine criterion for objectivity. Furthermore, as we shall see in greater detail below, this empirical lawfulness would be uncertain unless it is undergirded by the ideal, *a priori* forms of the mind. These *a priori* forms are what confer necessity and universality on experience, and enable us to make judgments that go beyond inductive generalizations.⁶⁷

The realist account *presupposes* the lawfulness of the external world, and so it takes externality to be a sufficient condition of lawfulness. Similarly, the question of how we can know something with certainty becomes the question of how we can know what is external to our mind. But this presupposition of lawfulness was thrown into question by Humean skepticism. Kant learned from Hume that the foundation of empirical lawfulness cannot ultimately be something that we discover through the external world, since “experience teaches us, to be sure, that something is constituted thus and so, but not that it could not be otherwise.”⁶⁸ In other words, experience on its own does not warrant strictly necessary or universal laws, which Kant calls the *a priori*.⁶⁹ Without such *a priori* laws, the possibility of even having an orderly experience is thrown into question, leaving us merely with a play of inner sense or “rhapsody of perceptions.”⁷⁰ Hence, a different

⁶⁷ See B3-4 for a clear statement of this. Nevertheless, there is the difficulty, about which Kant is explicit, that particular empirical laws cannot be derived from *a priori* ones, even though the former must “stand under” the latter (B165). I discuss this in greater detail in the next chapter.

⁶⁸ B3-4. For similar statements, see A1, B3-4, A91-92/B123-124.

⁶⁹ B3-4.

⁷⁰ A156/B195.

account of the basis of empirical lawfulness is needed than an appeal to the externality. This is the reason for Kant's idealism and the famous Copernican Experiment that "objects must conform to our cognition" rather than our cognition to objects.⁷¹ If objects conform to our cognition, then the foundation of both *a priori* and *a posteriori* lawfulness (and therewith externality and objectivity) is to be found within the subject rather than in the object. An object is lawful not because it is *external* to the mind, but rather because it is in some way *internal*, because it is in some way *subjective*.

I have added the qualification "in some way," because Kant obviously does not want to endorse the claim that subjectivity is a *sufficient* condition for objectivity, i.e. that whatever is subjective is therefore objective, but it is a *necessary* condition. This means that Kant must carefully distinguish between those aspects of our cognition that are determinative objects and those that are not. These are the form and matter of experience respectively. But there is a dual challenge. On the one hand, Kant has to show that subjectivity can be a source of lawfulness in objects, rather than being something merely ephemeral and inconstant. In other words, he has to prove that there are genuine forms of experience.⁷² To fail in this task would condemn him to the Humean empiricism he is trying to escape. On the other hand, he must avoid the possibility that this subjectivity is *wholly* determinative of the objects it apprehends, such that the ephemeral, inconstant, and contingent aspects of our experience disappear altogether. In other words, he has to make sure that the form of experience does not eliminate its matter. Failure in this latter task would mean that he would succumb to the accusation that the Sage of Königsberg

⁷¹ Bxvi.

⁷² In Chapters Two and Three I have agreed with him that there are, despite some places objections or qualifications that I have argued are needed.

had no dreams.⁷³ Both these challenges require that Kant severs the traditional tie between externality and objectivity. The real *desideratum* of objectivity is not externality but rather lawfulness. What gives appearances their lawfulness is not that they originate from objects external to the mind, but rather that the forms of experience necessitate that they adhere to its laws, such that the source of objectivity is within the subject. Both of the challenges are supposed to be met with Kant's doctrine of transcendental idealism, i.e. with the claim that we can know nothing other than mere appearances. The complete independence of objects from the mind must be sacrificed in order to obtain the possibility of establishing certainty about their lawfulness.

§4 Kant contra Berkeley

As I have already mentioned, one of the central touchstones in the debate about Kant's transcendental idealism was the Göttingen review of the *Critique*, which compared Kant's philosophy unfavorably with Berkeley's. In spite of the attention that it did (and still) garners, the central thrust of Kant's response has been misunderstood. For this reason, it is clarifying to see how Kant articulates his own position in response to it. Kant's central contention with Berkeley is not so much whether objects are appearances or not,⁷⁴ or whether they are transcendently in us or outside us,⁷⁵ but rather with our

⁷³ This accusation was made by Lewis, C.I., *Mind and the World Order* (New York: Charles Scribner's Sons, 1929), 221. But it is now more known through the response to the criticism given by Beck, Lewis White, "Did the Sage of Königsberg Have No Dreams?" in *Essays on Kant and Hume* (New Haven: Yale University Press, 1978), 38-60. I agree with Beck that Lewis' question is not very well-formulated. Lewis frames the question of whether Kant can account for the possibility of dreams and illusions in terms of whether a non-categorical experience is possible since the categories are putatively what distinguish the real from the unreal. But, in my view, Beck is right to argue that "the categories do not differentiate veridical from non-veridical experience; they make the difference between dumbly facing chaos without even knowing it [...] and telling a connected story, even if it's false" ("Did the Sage of Königsberg Have No Dreams?," 54).

⁷⁴ This is a mistake made by Bird, *Kant's Theory of Knowledge*, 16 and fn. 2.

ability to distinguish reality from illusion. That is, he believes that Berkeley is unable to explain the possibility of a lawful experience, and that he, Kant, can. By failing to see this, some of the deep similarities between Kant and Berkeley (which Kant himself was generally loath to acknowledge) are overlooked while ignoring their fundamental difference.

From a representationalist viewpoint, things are supposed to be different from their representations; they “exist” distinct from their being represented. Berkeley’s central conceptual move in the *Principles* is, in effect, to collapse this distinction. He points out that when we analyze the term “exist,” it turns out to mean nothing other than to be perceived: “the table I write on, I say, exists, that is, I see and feel it [...]. There was an odour, that is, it was smelled; there was a sound, that is to say, it was heard; a color or figure, and it was perceived by sight or touch.”⁷⁶ Perceptible qualities cannot exist otherwise than by being perceived. The existence of a color, odor, etc. is equivalent to being seen, smelled, etc. More importantly, we cannot attribute anything to perceptible objects besides what we actually perceive of them. To do so would be to posit a, by definition, unknowable matter or substratum behind the representations. If we want to claim that something exists without being perceived, Berkeley says that we must resort to counterfactuals: “if I were out of my study I should say it [my table] existed, meaning thereby *if* I was in my study I might perceive it, or that some other spirit actually does

⁷⁵ This is a mistake made by Henry Allison who diagnoses the problem with Berkeley as follows: “Berkeley’s position is not merely an indirect offshoot of transcendental realism; it is itself transcendentially realistic, because, like other forms of such realism, it regards Kantian appearances as *ausser uns* in the transcendental sense” (*Kant’s Transcendental Idealism*, 26). Allison offers no citations of Berkeley to support this claim.

⁷⁶ Berkeley, *Principles of Human Knowledge* §4.

perceive it.”⁷⁷ In this way, the spatio-temporal continuity of objects – how they can exist unperceived – is to be explained not by asserting their existence outside of the mind, but rather by asserting that they are possibly or actually perceived by some mind.⁷⁸

What seemed to have irked Kant the most in the Göttingen review was the accusation that his position is unable to distinguish between reality and illusion. The reviewers write:

we do not comprehend how the distinction between what is actual from what is merely possible [...] could be sufficiently grounded in the *mere* application of concepts of understanding without assuming *one* mark of actuality in sensation itself. This is the case particularly in view of the fact that for those who are dreaming as well as for those who are awake, visions and fantasies can occur as outer appearances in space and time, and, in general, as combined with one another in a most orderly fashion, sometimes even to all appearances in a more orderly fashion than actual events.⁷⁹

In the review itself, this criticism is made independently of the comparison between Kant and Berkeley. When Kant responds to the review in the *Prolegomena*, he takes both issues together. Thus he takes the inability to distinguish between reality and illusion to be true of all *previous* idealists, but not himself: “The thesis of all genuine idealists, from the Eleatic School up to Bishop Berkeley is contained in this formula: ‘all cognition through the senses and experience is nothing but sheer illusion, and there is truth only in the ideas of pure understanding and reason.’”⁸⁰ Taken at face value, this claim is obviously a polemical generalization. Berkeley, in particular, did not assert that cognition through the senses is *illusory*, but that such cognition gives no indication of things that exist independently of the mind. Kant’s accusation is so far off the mark that it was long

⁷⁷ *ibid.*

⁷⁸ In the end, Berkeley argues that sensible ideas exist even when not perceived by us because they are produced by God. See *Principles of Human Knowledge*, §§30-33.

⁷⁹ *The Göttingen Review*, in Sassen, *Kant’s Early Critics*, 54 (42-43 in the review’s original pagination).

⁸⁰ *Prolegomena*, 4:374.

taken as evidence (though now stronger counter-evidence exists) that he did not even have first-hand knowledge of Berkeley's writings.⁸¹ But the accusation gains plausibility when we take into account Kant's concern for *a priori* knowledge. For, Kant contends that without an account of how *a priori* cognition is possible, we would lack criteria to distinguish reality from illusion.

Even if Berkeley did not expressly state that sensible cognition is illusory, one could argue that this is a consequence of his position – and this is precisely what Kant does in the *Prolegomena*. In particular, he argues that it is a consequence of an empiricist account of space: “these idealists, and among them especially Berkeley, viewed space as a merely empirical representation, a representation which, just like the appearances in space together with all the determinations of space, would be known to us only by means of experience or perception.”⁸² After reiterating some of his arguments from the Transcendental Aesthetic, he argues that without an account of *a priori* space and time, one cannot avoid turning experience into an illusion: “since truth rests upon universal and necessary laws as its criteria, for *Berkeley* experience could have no criteria of truth, because its appearances (according to him) had nothing underlying them *a priori*; from which it then followed that experience is nothing but sheer illusion.”⁸³ Hence the crux of the issue is not really Berkeley's idealism in the sense that he treated empirical objects as

⁸¹ That Kant was ignorant of Berkeley was the prevailing view until Turbayne, Colin, “Kant's Refutation of Dogmatic Idealism.” He was followed by Allison, “Kant's Critique of Berkeley,” 44, 61. Turbayne accuses Kant of deliberately perverting Berkeley's position for his own ends, whereas Allison has a more sympathetic view of Kant's reading. For an account of the older view of Kant's knowledge of Berkeley, see Kemp Smith, *Commentary to Kant's Critique of Pure Reason*, 156-157, 307.

⁸² *Prolegomena*, 4:374.

⁸³ *Prolegomena*, 4:375. I agree with Turbayne (“Kant's Refutation of Dogmatic Idealism,” 240-241) and Allison (“Kant's Critique of Berkeley,” 60-61) that Kant is here not reporting what he believes to be Berkeley's views, but rather describing what he takes to be an implicit consequence of them.

mere appearances. It is that his account failed to explain how universal and necessary laws are possible, and hence how reality may be distinguished from illusion.

It is this failure to give an account of space as *a priori* that pervades Kant's frequently recurring accusation that Berkeley turns experience into illusion. A variation of it appears in the B edition of the Transcendental Aesthetic,⁸⁴ as well as in the newly-added Refutation of Idealism: "Berkeley, who declares space, together with all the things to which it is attached as an inseparable condition, to be something that is impossible in itself, and who therefore also declares things in space to be merely imaginary."⁸⁵ As Turbayne has pointed out, it is odd for Kant to criticize Berkeley for declaring space to be "something that is impossible in itself," since Kant also denies the absolute reality of space in the Transcendental Aesthetic.⁸⁶ But this misfire is forgivable when we see the broader context of Kant's complaint. He goes on to call Berkeley a dogmatic idealist, and explains that "dogmatic idealism is unavoidable if one regards space as a property that is to pertain to the things in themselves; for then it, along with everything for which it serves as a condition is a non-entity."⁸⁷ In other words, the only account of space with which Berkeley contended was a transcendentially realistic one, and he (rightfully from a Kantian point of view) rejected it. But without an alternative account of space as an *a priori* intuition, Berkeley is only left with an empirical one. This leaves him unable to provide grounds for universal and necessary laws, such that he cannot avoid the conclusion that space and spatial objects are merely imaginary. On the one hand, Kant thus sympathizes with Berkeley's idealism as an "unavoidable" reaction to the

⁸⁴ B69-71.

⁸⁵ B274.

⁸⁶ Turbayne, "Kant's Refutation of Dogmatic Idealism," 241. See also Rockmore, *Kant and Idealism*, 43. For Berkeley's rejection of absolute space, see *Principles of Human Knowledge*, §116.

⁸⁷ B274.

transcendental realist account of space, while criticizing him, on the other hand, for rejecting this account of space without presenting an adequate alternative.

For what it is worth, Berkeley quite clearly did not anticipate Kant's doctrine of space as an *a priori* intuition, nor did he feel the need to do so insofar as he grounded the regularity of appearances on the wisdom and benevolence of God.⁸⁸ But this too is arguably susceptible to the Humean critique that such regularity cannot be known through experience to be universal and necessary. Hence arises the need for a Kantian account of *a priori* cognition. But the question of the *regularity* of appearances is entirely different from the question of whether we should treat sensible objects as appearances at all, that is, from the question of idealism. Kant states that he is opposing Berkeley's *idealism*, but his arguments actually only oppose Berkeley's explanation for the regularity of appearances.

What this mischaracterization reveals, however, is that Kant's overt disagreement with Berkeley is different – and *narrower* – than what it is often taken to be. His contention with Berkeley has to do with his inability to distinguish reality and illusion. This point has generally been missed by commentators. It is distortion to say, as Henry Allison does, that “Berkeley's position is not merely an indirect offshoot of transcendental realism; it is also itself transcendently realistic, because, like, other forms of such realism, it regards Kantian appearances as *ausser uns* in the transcendental sense.”⁸⁹ In a similar vein, Lucy Allais writes that “while many questions have been raised about Kant's rejection of Berkeley, I argue that it gives extremely strong grounds

⁸⁸ *Principles of Human Knowledge*, §30.

⁸⁹ Allison, *Kant's Transcendental Idealism*, 26.

to reject any mentalised reading of appearances.”⁹⁰ Such claims conflicts with Kant’s own admission in the *Prolegomena* that he and Berkeley are in agreement about the status of appearances: “space and time, together with everything contained in them, are not things (or properties of things) in themselves, but belong instead to the appearances of such things; *thus far I am of one creed with the previous idealists.*”⁹¹ What renders experience “sheer illusion” in Kant’s eyes is not the fact that empirical objects are treated as mere appearances. Instead, when Kant raises the issue of space and time, his criticism is that no other idealist before him was able to give an adequate account of how *a priori* knowledge is possible, which, in turn, is supposed to explain the possibility of empirical lawfulness. Kant’s doctrine of *a priori* space and time is a genuine departure from Berkeley. But it is also separate from the question of idealism as such. Thus Kant’s supposed refutation of Berkeleyan idealism leaves its central tenant intact and obscures the fact that Kant shares this central tenant.

§5 Formal Idealism

When Kant turns from criticizing the inadequacies of other views and offers his own positive distinction from them, he appeals once again to the distinction between form and matter. In particular, he argues that previous idealists suffered from being *material* idealists, that is, they failed to identify the formal element of experience which provides its lawfulness. Kant thus writes that “formal idealism (elsewhere called transcendental idealism by me) actually destroys material or Cartesian idealism. For if

⁹⁰ Allais, *Manifest Reality*, 52.

⁹¹ *Prolegomena* 4:374. Allais entirely ignores this passage when she argues that Kant and Berkeley disagree about the nature of appearances (*Manifest Reality*, 52-56). This passage also conflicts with Allison’s own claim from an earlier essay that Kant’s and Berkeley’s views on the nature of appearances “are substantially identical” (“Kant’s Critique of Berkeley,” 49).

space is nothing other than a form of my sensibility, then it is, as a representation in me, just as real as I am myself, and the only question remaining concerns the empirical truth of the appearances in this space.”⁹² The problem with the Cartesian view according to Kant is that it assumes that the space that I represent is distinct from a space of things in itself, and wonders whether the things I represent in space also exist in the space in itself. His rejoinder is that the space that I represent, since it is a form of my sensibility, is no less real than I (*qua* Cartesian *cogito*) am. The basis of Cartesian doubt, the question of how my own representation of spatial things can correspond to a supposed thing in itself can be avoided by attending instead to the lawfulness of my own representations: “Here the doubt can easily be removed, and we always remove it in ordinary life by investigating the connection of appearances in both space and time according to universal laws of experience, and if the representation of outer things consistently agrees therewith, we cannot doubt that those things should not constitute truthful experience.”⁹³ In other words, the universal laws of experience are what guarantee the reality of the objects of experience – not a supposed correspondence to a thing in itself. These universal laws are what provide a “connection of appearances in both space and time,” that is, the empirical lawfulness that I have been arguing is the true criterion of reality, and that allows for the scientific investigation of nature. Furthermore, these universal laws of experience are, as we have been arguing throughout this dissertation, based on the forms of experience and they are subjective, i.e. ideal. Yet because they are what ground their order and regularity of experience, they are real too. For the criterion of reality, as I have argued, is nothing other than such lawfulness.

⁹² *Prolegomena*, 4:337 (§49). Kant also refers to Cartesian idealism as material idealism at B274, and he makes a similar claim in a letter to J.S. Beck in 1792 (11:395).

⁹³ *Prolegomena* 4:337 (§49).

What this shows is that there is a deep ambiguity over the terms “ideal” and “real” that has kept debates about Kant’s transcendental idealism animated for so long yet with so little progress. To be ideal can mean to be subjective *or* it can mean to be contingent, whereas to be real can mean to be external (or “in itself”) *or* it can mean to be lawful. Kant’s doctrine of transcendental idealism is that the empirical world is ideal in the sense that it is subjective, grounded on the forms of intuition and understanding, and yet it is real in the sense that it is lawful because these forms give lawfulness and regularity to it. It is this lawfulness that gives the empirical world a kind of independence from the contingencies of our experience, even though that lawfulness is subjectively grounded.

As I said at the start of this chapter, endless debates have been had about whether Kant is a phenomenalist or not a phenomenalist, whether he is similar to Berkeley or not, and to which kind of idealism or realism he subscribed. I have argued in this chapter that I believe the terms of these debates have largely missed the most important point and have failed to observe the basic ambiguities in terms of which the debates are conducted: ambiguities concerning the juxtapositions of external and internal, real and ideal, independent and dependent, etc. The issue that truly concerns Kant, as I have said, is whether we can explain the lawfulness of the empirical world. The fault that he diagnoses with earlier philosophies is that they try to establish its lawfulness by placing it in something entirely outside of or independent of the mind. Given the challenge of Humean skepticism, Kant’s strategy is rather to seek out a subjective (i.e. ideal) basis for the lawfulness of the empirical world. In this way, the world can only be real (*qua* lawful) if it is also ideal (grounded on the forms of subjectivity). The success or failure of Kantian idealism thus hinges upon his ability to justify this subjective basis for *a priori*

knowledge. Furthermore, since *a priori* means what is universal and necessary, this *a priori* knowledge is the true basis of the objectivity that a realist would search for in externality.

§6 Coda: The Problem of Things in Themselves

No discussion of Kant's transcendental idealism could be complete without some discussion of the role of things in themselves. Despite Kant's claim that we can know only appearances, he frequently makes statements to the effect that there must be some things in themselves underlying these appearances. A great deal of ink has been spilled on the question of whether Kant subscribes to a 'one-world' or 'two-world' view of things in themselves.⁹⁴ That is, do the phenomenal and noumenal constitute two different aspects of the same world, or constitute two separate worlds? My own view can be stated simply: both views are ultimately irrelevant to our theoretical knowledge. The success of a Kantian account of knowledge consists in our ability to discern the lawfulness and regularity of the empirical world. To ask about things in themselves is to try to probe into the metaphysical, non-empirical cause of that world, which is, by definition, unknowable. Since we cannot *know* anything about things in themselves, it makes *no* epistemic difference whether we think of them as a different aspect of appearances or as some separate things underlying appearances. Things in themselves can play no legitimate explanatory role in our knowledge of the world (although they may have a legitimate role

⁹⁴ See Allais *Manifest Reality*, 7-9 and Stang, "Kant's Transcendental Idealism," for recent discussions of the various positions. Notable representatives of the two world or ontological view include Strawson, *The Bounds of Sense*, Guyer, *Kant and the Claims of Knowledge*. Notable representatives of the one world or epistemic view include Allison, *Kant's Transcendental Idealism*; Prauss, Gerold, *Kant und das Problem der Dinge an sich* (Bonn: Bouvier Verlag, 1977); and Langton, *Kantian Humility*. Allais, *Manifest Reality*, presents herself as a compromise between the two.

in the practical sphere, or as regulative heuristics).⁹⁵ If they offer nothing to a Kantian explanation of nature, they also should not trouble Kant's interpreters too much either.⁹⁶

One common argument in favor of the significance of things in themselves is Kant's frequent mentions of the ability, and sometimes the necessity, to consider or think of things in themselves, or of things *as they are* in themselves. What we generally find are arguments along these lines: given that objects of experience are mere appearances, there must be things in themselves.⁹⁷ But such inferences should be taken with the same caution that Kant enjoins for us in his treatment of the illusory ideas of the Transcendental Dialectic. Such illusions are unavoidable, and remain so even after they are exposed as illusions; but even if they persist, it is possible to protect ourselves from being deceived by them.⁹⁸ It may be necessary to think of things in themselves in this way, just as it is necessary to think of the world as infinitely divisible (or, alternatively, as not infinitely divisible). But one lesson of the Transcendental Dialectic is that "I must think X" does not entail the claim "X exists." So we should not take the necessity of thinking of things in themselves to mean that they play a legitimate epistemic role.

⁹⁵ These are points made by Kant respectively in his practical writings and in the Transcendental Dialectic, but to examine them is beyond the scope of this dissertation.

⁹⁶ Of course, the topic of the thing in itself continues to play an important role in post-Kantian philosophizing, particularly in the search for the premises or grounds of Kantian philosophy. To examine this, however, is beyond my scope. One can find helpful discussions in Beiser, *German Idealism: The Struggle Against Subjectivism, 1781-1801*, 260-272; Ameriks, Karl, "The Critique of Metaphysics: The Structure and Fate of Kant's Dialectic" in *Kant and the Historical Turn: Philosophy as Critical Interpretation* (Oxford: Clarendon Press, 2006), 134-160; Oswald, Georg, "Kant, Schelling, and Hegel on How to Conceive Matter from a Metaphysical Point of View," *Idealistic Studies* 52, no. 3 (Fall 2022): 245-268.

⁹⁷ Henry Allison thus identifies two different lines of argument for things in themselves: one infers things in themselves from the need for a 'cause' or 'ground' of appearances, and one infers them based on the semantic claim that the term 'appearance' logically implies things in themselves as a kind of correlate (Allison, *Kant's Transcendental Idealism*, 53-55).

⁹⁸ See A296-298/B353-355.

As I have argued in this chapter, the epistemic role that things in themselves are *supposed* to play in pre-Kantian philosophies is to supply a touchstone of lawfulness: something is lawful because it is entirely independent of the mind. But this justification was undermined by Humean skepticism. Kant's goal was to offer an alternative account for the lawfulness of the empirical world, not by appealing to something independent of the mind, but rather grounded in it. Much of the attention given to the problem of things in themselves aims to offer a grounding for Kant's theoretical philosophy while overlooking the fact that Kant's theoretical philosophy should be able to stand on its own even when the paradoxes of things in themselves are left *unresolved*.

Chapter Five: The Transcendental Deduction

§1 The Problem of Objective Validity

Even more so than other sections of the *Critique of Pure Reason*, the Transcendental Deduction is the subject of wildly varying interpretations. There is no consensus about what exactly Kant is trying to accomplish within it, how he endeavors to accomplish it, or whether he is successful in accomplishing it. These difficulties are compounded by the fact that Kant rewrote the Deduction entirely in the second edition of the *Critique*, and seemingly pursued different argumentative strategies in the new version of it. So like all other chapters in this dissertation, I must limit my scope and inevitably focus only on the questions relevant to the relation of form and matter. I believe that the central question of the Transcendental Deduction is given by Kant in his introduction to it (§13), namely “how subjective conditions of thinking should have objective validity (*objektive Gültigkeit*), i.e. yield conditions of the possibility of all cognition of objects.”⁹⁹ These subjective conditions of thinking are, of course, the categories or the forms of the understanding, the discovery of which we have already discussed in Chapter Three. The goal of the transcendental deduction is thus to prove the “objective validity” of the categories, which means, as we shall see, that these categories apply necessarily to objects, in the sense that nothing would be an object for us unless it were subject to the categories. That is to say, the Transcendental Deduction offers Kant’s most explicit attempt to explain how and *prove that* the *a priori* forms relate to the matter given in intuition. My argument shall focus almost entirely on §§15-20 of the B edition Transcendental Deduction, and in this respect, I depart from the common interpretation

⁹⁹ A89-90/B122.

that the B Deduction has a two-steps-in-one-proof structure.¹⁰⁰ Furthermore, I shall argue that Kant's arguments in the B Deduction are actually insufficient to fulfill this goal, since in the crucial section §19 Kant fails to explain how judgment mediates a transition from a subjective unity of consciousness to an objective unity of consciousness. In spite of this, I think that many of his arguments in the B Deduction still carry weight, and they take on a pragmatic significance when the forms of experience are shorn of their pretension to determine appearances.

It is well-known that the problem of how subjective conditions of thought can have objective validity had occupied Kant as early as his letter to Marcus Herz in 1772, in which, while discussing some problems from the *Inaugural Dissertation*, Kant raises the question: "What is the ground of the relation of that in us which we call 'representation' to the object?"¹⁰¹ Kant goes on to note that there are two available answers: one in which the mind is passive, and one in which the mind is active. Neither answer, however, is adequate to explain the pure concepts of the mind. In the case of sensible representations, the subject is passive so that the representation "conforms

¹⁰⁰ This two steps interpretation was first put forward by Henrich, Dieter, "The Proof Structure of Kant's Transcendental Deduction," *Review of Metaphysics* 22 (1969): 640-659. Henrich's approach has been followed by such influential interpretations as Allison, *Kant's Transcendental Idealism*; Ameriks, Karl, "Kant's Transcendental Deduction as a Regressive Argument," 284-285. It is outside my scope to discuss this approach in detail, but I shall say in brief that the main support for it is textual. That is, even though Kant concludes §20 by saying "the manifold in a given intuition also necessarily stands under categories," which would seem to satisfy the purposes of the deduction, he immediately goes on to say in the next paragraph that the deduction will not be "fully attained" (B145) until §26. What adherents to the two-step approach to the deduction fail to sufficiently countenance is the simple possibility that Kant was not entirely clear to himself about the aims and strategies of the deduction. It is entirely possible — and it is my own view — that he believed that the deduction was only complete in §26, when in fact its substantive results had already been achieved by §20, such that the ensuing sections consist mainly of elaboration and clarification of what he had argued in the first sections. Furthermore, since an important part of my argument is that Kant does not succeed in the first sections of the Deduction, this reduces the need to offer extended discussion of the remaining sections, since in many scholars' view (and my own) the latter sections do not offer an independent proof.

¹⁰¹ *Correspondence*, 10:130.

[*gemäß sei*] with this object, namely as an affect accords with its cause.”¹⁰² This cannot be the case with the pure concepts of the mind precisely because, as pure, they are not supposed to derive from the object. Alternatively, if we suppose the representation is active relative to its object, then this would be nothing other than a divine *intellectus archetypus*: “if that in us which we call ‘representation’ were active with regard to the object, that is, if the object itself were created [*hervorgebracht*] by the representation (as when divine cognitions are conceived as the archetypes of things), the conformity [*Conformität*] of these representations to their objects could also be understood.”¹⁰³ But, aside from the case of morals, our intellect has no such power to create the very objects that it cognizes. If the pure concepts of the understanding are not passively borrowed from their object, and if they do not actively create their object, then how can they have any relation to it at all? The same dilemma about how a pure representation can relate to an object recurs (though in somewhat different terms) in the Transcendental Deduction.¹⁰⁴

Part of the problem with Kant’s dilemma in the letter to Marcus Herz is that he only conceived of the relation between a representation and its object as a *causal* one, specifically a causality that makes something *exist*: either the object makes the representation in the mind exist, or the representation makes the object exist. The way out of the dilemma is to find a third kind of relation: the relation of form and matter, which is just what Kant tries to do in the Transcendental Deduction. This is arguably a kind of

¹⁰² *ibid.*

¹⁰³ *ibid.*

¹⁰⁴ See Kant’s remark at B124-125: “There are only two possible cases in which synthetic representation and its object can come together, necessarily relate to each other, and, as it were, meet each other: either if the object alone makes the representation possible, or if the representation alone makes the object possible.”

causality in the Aristotelian sense of “cause” (*aition*) which seeks to explain why a thing is the way that it is. But it is not the kind of causality that makes a thing exist. The forms of experience do not create the objects of experience *ex nihilo*, as a divine intellect would. Yet they are still *active* or *determinative* of their objects. That is because an “object” is not a brute fact or a pure given, but rather something with a particular constitution that must be satisfied in order to merit its name. In the previous chapter, I argued that this standard is one of lawfulness.¹⁰⁵ An object is a manifold that has to be ordered in a lawful manner in order to count as an object. The forms of experience are what allow us to cognize such lawfulness, and therefore objects. In this way, the forms of experience have a necessary connection to objects of experience, even though they do not bring those objects into existence. Kant expresses this exact distinction when he writes: “since representation in itself (for where are not here talking about its causality by means of the will) does not produce its object as far as its existence is concerned, the representation is still determinant of the object *a priori* if it is possible through it alone to cognize something as an object.”¹⁰⁶

One may object, however, that this is a distinction without a difference. How can it be that a representation allows us to cognize something *as* an object, such that without the representation there would be no object for us, and yet we cannot say that the representation *creates* the object? We may respond that the distinction makes more sense when we consider it in light of a form-matter relation. To return to the original metaphor of form and matter that we examined in Chapter 3, a sculptor does not create the marble or the bronze which serves as their material; their role is rather to sculpt that material into

¹⁰⁵ See *infra*, Chapter Four, §§3-5.

¹⁰⁶ A92/B125.

its particular shape or form. They are responsible for *what* the thing is (a statue), but they are not responsible for the fact *that* it is (i.e. that such materials exist). In the same way, the *a priori* forms of experience are responsible for the fact that a manifold is united in such a way that it can count as an “object,” but these forms cannot fabricate the manifold itself, which must be passively received through intuition.

This sense of “object” helps to shed some light on Kant’s term “objective validity” (*objektive Gültigkeit*). In common parlance, “objective validity” suggests something that is beyond debate or dispute, that is firmly established, that has achieved a high degree of certainty, in contrast to what is merely “subjective,” i.e. a matter of opinion, something that is debatable, dubious, or relative. I suggest that Kant’s use of the term is quite different, however.¹⁰⁷ To have “objective validity” means fundamentally to be valid of objects, i.e. in contrast to what Kant calls “usurped” concepts like fortune and fate, which are “entirely empty, nugatory, and without significance.”¹⁰⁸ In this way, Kant’s use of the term is much more humble than the contemporary use. It is entirely possible that a representation might have “objective validity” in the Kantian sense that it pertains to an object, and yet this representation may not have “objective validity” in the sense of being a matter of firmly established knowledge.¹⁰⁹ For instance, Chinese

¹⁰⁷ I believe that Robert Paul Wolff mistakenly adopts this common understanding of “objective” when he writes that “a deduction is demonstration of the objective validity of a concept — a proof, that is, that its employment yields knowledge” (*Kant’s Theory of Mental Activity*, 90). In a similar vein, Henry Allison refers to the question of objective validity as a “properly epistemological question” (*Kant’s Transcendental Idealism*, 83). More accurate, I believe, is Thomas Nenon’s entry in the *Kant Lexikon*: “Die Grundbedeutung von ‚objektiv‘ bei Kant ist ‚das Objekt (den Gegenstand, die Sache) betreffend‘. So ist die ‚objektive Gültigkeit eines Urteils dessen ‚Übereinstimmung mit dem Objekt‘ (5:13)“ (“Objekt,” in *Kant Lexikon*, 1697). Allison is more in accord with this view in *Kant’s Transcendental Deduction*, 366.

¹⁰⁸ A90B/123. Another clear statement of this can be found in R5923: “the objective reality of all concepts, i.e. their significance, is to be sought in relation to possible experience” (18:385).

¹⁰⁹ A similar point is made by George, Rolf, “Kant’s Sensationism,” *Synthese* 47 (1981): 241-243, which he believes traces back to the mistaken translation of *Erkenntnis* as “knowledge.” George argues that we

astronomers in 1054 CE observed a bright new object in the sky, which they called a “guest star.” Today, we now know that they observed a supernova that has produced what we call the Crab Nebula. Their observation had “objective validity” in the sense that their perception relates to an object, but our knowledge of this object is much more robust than theirs (“objective” in the modern sense) since we can now make much more precise observations of this celestial object and explain why it shone so bright a millennium ago.¹¹⁰ There is, nevertheless, something of the common meaning of “objective validity” in Kant’s use of the term. In the *Prolegomena*, for instance, he claims “objective validity and necessarily universal validity (for everyone) are therefore interchangeable concepts.”¹¹¹ In other words, objective validity is coextensive with necessary intersubjective validity. This statement, however, comes as a conclusion to another argument that relies upon the conception of objective validity that I have suggested. In the argument leading up to this conclusion, Kant writes:

if we find cause to deem a judgment necessarily, universally valid [...], we must then also deem it objective, i.e., as expressing not merely a relation of a perception to a subject, but a property of an object; for *there would be no reason [kein Grund] why other judgments necessarily would have to agree with mine, if there were not the unity of the object* — a unity to which they all refer, to which they all agree, and, for that reason, must harmonize among themselves.¹¹²

In other words, the intersubjective validity that is implied in the term “objective” is grounded in the fact that various representations relate to a common object. Although Kant claims that universal validity and objectivity are coextensive, he makes clear that this is fundamentally due to the *object* rather than the people who assent to it. Henry

should think of *Erkenntnis* as “reference” in the sense of “having an object” instead of “knowing an object.”

¹¹⁰ I was made aware of this example in McClellan and Dorn, *Science and Technology in World History*, 151.

¹¹¹ *Prolegomena*, 4:298.

¹¹² *ibid.*, italics added.

Allison gets this mixed up in reading this passage and argues that for Kant universality and necessity are essentially *normative*, i.e. intersubjectivity is what gives rise to the unity of the object.¹¹³ But Kant is absolutely clear that without the object there would be “no reason” for intersubjective validity. What makes a representation universally and necessarily valid, such that it demands assent from all people, is the fact that it relates to an object. The object is thus what guarantees the harmony of different people’s perceptions. Put somewhat differently, the object is the ground of all that is objective.

There is, however, a deep difficulty with this account that stems from Kant’s transcendental idealism. At one point Kant says that a transcendental deduction is “an explanation of the way in which concepts can relate to objects *a priori*.”¹¹⁴ The notion of relating to objects (*auf Gegenstände beziehen*) ought to be interpreted in light of what I argued in the last chapter. That is, Kant rejects the traditional view of “objectivity” as grounded in that which is external to the subject. Instead, I argued that the real *desideratum* of objectivity is lawfulness, and this lawfulness must ultimately have a subjective ground, or else Kant cannot avoid Humean skepticism.¹¹⁵ So although intersubjective validity is based on the relation to an object, the object itself must be grounded in a subjective lawfulness. Does this not render the concept of objective validity into nothing more than “a relation of a perception to a subject” from which Kant tried to distinguish it in the *Prolegomena*?¹¹⁶ I shall argue below that Kant does formulate a conception of objectivity that is distinct from a relation of a perception to a subject. However, he fails to explain how we can actually cognize such objectivity. In the end,

¹¹³ Allison, *Kant’s Transcendental Deduction*, 295-296; see also 368-369.

¹¹⁴ A85/B117.

¹¹⁵ See *infra*, Chapter Four §3.

¹¹⁶ *Prolegomena*, 4:298.

such objectivity functions more like a regulative ideal that we must search out in appearances, without ever knowing that our search is successful.

§2 Empirical vs Transcendental Deduction

Given the peculiar nature of the categories, an entirely new style of proof must be deduced from them. They are not borrowed from experience, and so we cannot appeal to experience to justify them, and yet Kant needs to show that these categories apply necessarily to experience, i.e. that they are valid only “through their possible application to *empirical intuition*, i.e. they serve only for the possibility of *empirical cognition*.”¹¹⁷ It is fair to say that no one had ventured such a proof before. As is well known, to clarify the unique nature of his problem, Kant appeals to a legal distinction, namely that between a *quid facti* and *quid juris*.¹¹⁸ A *quid facti* is a question about the facts of a legal case, whereas a *quid juris* is a question about the law. Empirical concepts do not need a deduction, “because we always have experience ready at hand to prove their objective reality.”¹¹⁹ But this is not possible with the categories, since these concepts are not empirical in origin. For them, a transcendental rather than empirical deduction is

¹¹⁷ B147. Another clear statement of this can be found in R5923: “the objective reality of all concepts, i.e. their significance, is to be sought in relation to possible experience” (18:385).

¹¹⁸ Henrich has influentially argued that even Kant’s term *Deduktion* stems from the Roman legal tradition rather than from the domain of syllogistic proofs. Henrich, Dieter, “Kant’s Notion of a Deduction and the Methodological Background of the First Critique,” *Kant’s Transcendental Deductions: The Three “Critiques” and the “Opus postumum,”* edited by Eckart Förster, Stanford, CA: Stanford University Press (1989), 29–46.

¹¹⁹ A84/B116. I am in agreement with Allison (*Kant’s Transcendental Deduction*, 181–182) that it would be better to say that appealing to experience is the deduction of empirical concepts, rather than saying that they have “a sense and a supposed signification even without any deduction.” For surely there can be concepts whose empirical validity is not known, so that one must be able to exhibit them in experience in order to prove their validity.

needed.¹²⁰ This distinction is rejected by empiricist-minded commentators like Strawson, who took the “principle of significance” to be the key to much of Kant’s philosophy.¹²¹ But if the notion of a transcendental deduction is removed, then much of Kant’s arguments are doomed to fail from the start. One irony of Strawson’s rejection is that the Deduction is where Kant seemingly takes empiricism most seriously by ardently examining the fundamental conditions of experience — only to discover, however, that such experience would not be possible without certain *a priori* forms. That is, the Deduction seeks to offer a kind of *reductio ad absurdum* of an empiricist position. An empiricist takes for granted that we already have a more-or-less orderly experience, and the question is how such experience can be rendered into knowledge: that is how can what is cognizable be turned into cognition? By contrast, Kant strives to show that we would not even have an orderly experience unless that experience had an *a priori* basis. Without this *a priori* basis, our experience would not even be *cognizable*.

After introducing the distinction between the *quid facti* and *quid juris*, Kant introduces the notion of “usurped” concepts, of which he names “fortune” and “fate” as examples. As Kant says at the beginning of the Deduction, human cognition is a “mixed

¹²⁰ Kant distinguishes a transcendental from an empirical deduction as follows: “I therefore call the explanation of the way in which concepts can relate to objects *a priori* their *transcendental deduction*, and distinguish this from the *empirical* deduction which shows how a concept is acquired through experience and reflection on it, and therefore concerns not the lawfulness but the fact from which the possession has arisen” (A85/B117). Outside of this section of the *Critique of Pure Reason*, however, I can find no mention of an empirical deduction.

¹²¹ Strawson formulates the principle in this way: “If we wish to use a concept in a certain way, but are unable to specify the kind of experience-situation to which the concept, used in this way, would apply, then we are not really envisaging any legitimate use of that concept at all. In so using it, we shall not merely be saying what we do not know; we shall not really know what we are saying” (Strawson, *The Bounds of Sense*, 5). Strawson is quite dismissive of the aims and assumptions of the Deduction itself (*ibid.*, 85-89), and recommends instead turning to the Principle for “highly general conclusions” (presumably in contrast to the universality and necessity implied in Kant’s *a priori*) that are as independent from the Deduction as possible.

fabric”¹²² that contains a variety of concepts from a variety of sources. His fear is that the pure concepts of the understanding, since they are not in any way “borrowed”¹²³ from experience, may turn out to be nothing other than a “usurped” concept like fate or fortune, which pretend to explain something about experience but have no legitimate use in it. Such concepts lack a *quid juris* “because one can adduce no clear legal ground for an entitlement to their use either from experience or from reason.”¹²⁴ Lacking such an entitlement, these concepts are evidently baseless and without a legitimate use. They cannot be justified either from experience or reason. There is evidently a risk that the categories turn out to be like these usurped concepts, since they do not admit of an empirical deduction nor are they supposed to be used entirely independently of experience. This risk becomes clear when Kant contrasts the validity of the forms of intuition with the forms of understanding:

For that objects of sensible intuition must accord with the formal conditions of sensibility that lie in the mind *a priori* is clear from the fact that otherwise they would not be objects for us; but that they must also accord with the conditions that the understanding requires for the synthetic unity of thinking is a conclusion that is not so easily seen. For appearances could after all be so constituted that the understanding would not find them in accord with the conditions of its unity and everything would then lie in such confusion that, e.g. in the succession of appearances nothing would offer itself that would furnish a rule of synthesis and thus correspond to the concept of cause and effect, so that this concept would therefore be entirely empty, nugatory, and without significance. Appearances would nonetheless offer objects to our intuition, for intuition by no means requires the functions of thinking.¹²⁵

¹²² A85/B117.

¹²³ A86/B118.

¹²⁴ A84-85/B117.

¹²⁵ A90/B122-123. This passage is often taken as support for a non-conceptualist reading of Kant, e.g. by Hanna, Robert, “Kant and Non-Conceptual Content,” *European Journal of Philosophy* 13, no. 2 (2005): 251-252; Allais, Lucy, *Manifest Reality*, 161-163; and Schulting, Dennis, “Kant, Non-Conceptual Content and the ‘Second Step’ of the B-Deduction” *Kant Studies Online* (Jan. 2012): 81-88. (Schulting, it should be noted, argues for a more moderate non-conceptualism than Hanna and Allais). I agree, by contrast, with Ginsborg, Hannah, “Was Kant and Non-Conceptualist,” 70-71, and Allison, Henry, *Kant’s Transcendental*

Despite Kant's claim to have already established this necessary relation vis-à-vis space and time in the Transcendental Aesthetic, I cast doubt on this in Chapter Two of this dissertation.¹²⁶ Given the synthetic character of spatial determinations, which Kant left implicit in the Aesthetic, the objective validity of space and time are subject to no less doubtful than the categories. However, Kant's description of the problem of proving the categories is quite apt. Starting from the Kantian premise that sensibility receives a disordered matter and that all order, combination, and connection are attributable to the mind, there arises the serious question of whether this order, combination, and connection have objective validity. For it is perfectly plausible on such a model to suppose that the matter of experience would not lend itself to such ordering, combining, and connecting, such that experience would be a mere "rhapsody of perceptions."¹²⁷

§3 Relation of Categories to Objects

Kant's strategy is rather to validate the categories by arguing that *we could not have any kind of experience without them*. Kant notes that there are two ways in which a synthetic representation may be validated: "either if the object alone makes the representation possible, or if the representation alone makes the object possible."¹²⁸ The first case obviously describes how empirical representations are acquired. In the second case, the representation does not derive from the object, and although it does not cause the object to exist, "the representation is still determinant of the object *a priori* if it is

Deduction, 8-10, that the view that Kant here entertains is merely hypothetical and not an statement of his own considered position.

¹²⁶ See *infra*, Chapter Two, §6.

¹²⁷ A155/B196.

¹²⁸ A92/B124.

possible through it alone to *cognize something as an object*.¹²⁹ Kant's wording deserves close attention: cognizing *something as an object* is not the same as cognizing an object.¹³⁰ To cognize an object would mean, generally speaking, to be able to identify an object according to its characteristic properties, e.g. to cognize an apple by observing its sweetness, crispness, mealiness, etc. By contrast, to cognize something as an objective is rather what Henry Allison has quite aptly described as an "objectivating" activity. That is, it lets something appear as an object for us. Thus Kant writes that "the synthetic unity of consciousness is therefore an objective condition of all cognition, not merely something that I myself need in order to cognize an object but rather something under which every intuition must stand *in order to become an object for me*."¹³¹ Hence Kant is not so much concerned with how we can refer internal representations to external objects (as would be the case with the representationalist model I discussed in Chapter Four), but rather with how it is possible for something to be an object *for us*. Furthermore, once we have abandoned externality as the definitive characteristic of objecthood, it is necessary to consider a different characteristic of what makes an object an object, which I have argued is the lawful synthesis of a manifold of properties. It is by examining the

¹²⁹ A92/B125.

¹³⁰ This interpretation contrasts with the non-conceptualist interpretation of Kant, like that of Lucy Allais who argues that Kant's "concern with 'relation to an object' in the Deduction is not about what it takes for us to have experience of perceptual particulars (to be presented with objects) but about the conditions of referential thought" (*Manifest Reality*, 259). My view does accord, however, with Henry Allison's view of the categories as an "epistemic condition" which he defines as "a necessary condition for the representation of objects, that is, a condition without which our representations would not relate to objects, or equivalently, possess objective reality" (*Kant's Transcendental Idealism*, 11). However, I think Allison still understates the significance of this objectivating function. It is not merely a matter of explaining how our representations relate to objects — which implies that there are already objects "out there" independent of our possibility of representing them — but rather how something can be an object *for us*, which is as much as to ask how something can be an object at all since we cannot have any cognition of an object that is not *for us*. In the Addendum to this Chapter, I also discuss the role of what Kant in the Second Analogy calls an "objective sequence" in our cognition of an object.

¹³¹ B138.

objectivating function of the categories that Kant thinks he can establish the legitimacy of the categories: “all empirical cognition of objects is necessarily in accord with such concepts, since without their presupposition nothing is possible as *object of experience*.”¹³² The key to the transcendental deduction thus consists in interpreting what Kant means by “object of experience” and interpreting how the categories are supposed to be ‘presupposed’ by it.

As my analysis up to this point indicates, it seems to me that the object of experience ought to be interpreted as a kind of unity of diverse properties – what, in earlier philosophical language, would be described as the unity of accidents in a substance.¹³³ The senses receive these properties distinctly and the question is whether and how they may belong to one another and be united into a single thing that we call “object.” This is the kind of synthesis in intuition that serves as the *explanandum* of the transcendental deduction.¹³⁴ Kant’s claim is that the ways in which the properties of an object are united are, in some way, related to the various ways of uniting representations in a judgment.

This approach has its critics, however. Paul Guyer famously identified two different major strategies that Kant employed for the deduction in its various versions (large and small) across his writings. One kind of deduction begins with knowledge of objects, and another with the concept of self-consciousness. Guyer preferred the latter.¹³⁵

¹³² A93/B125.

¹³³ In the Addendum to this chapter, I indicate how the relation of accidents to a substance is complicated by Kant’s account of them in the First Analogy.

¹³⁴ This is not the only way of viewing the transcendental deduction. Longuenesse argues that a mathematical sense of synthesis, descending from Kant’s *Preisschrift* of 1764, predominates in the transcendental deduction (Longuenesse, *Kant and the Capacity to Judge*, 30-33).

¹³⁵ Nor is Guyer alone in this. Similar interpretations, which see Kant as trying to argue *to* objectivity *from* the mere fact of self-consciousness, have been advanced by Strawson, *The Bounds of Sense*; Bennett,

According to Guyer, the former strategy generally begins with an assumption that we have empirical knowledge of objects, then argues that such knowledge could not be possible without an *a priori* basis, namely the categories, which show that the empirical determinations of objects necessarily belong together. Guyer's objection is that such a strategy ends up begging the question: Kant first defines an object as "the expression of a necessary connection,"¹³⁶ then assumes that we have empirical knowledge of objects, then argues that this empirical knowledge requires knowledge of necessary connections since empirical objects are supposed to express necessary connections. Kant's whole proof is baked into his conception of an object as the expression of a necessary connection. This assumption is dubious according to Guyer: "if we take as our example an ordinary empirical object, it is not immediately apparent why the rules which connect its several representations into the representation of a whole must themselves be known *a priori*."¹³⁷ In this way, Kant's deduction is left vulnerable to skeptical objections that we do not even have empirical knowledge.

Although I agree with Guyer that Kant does not succeed in this deductive strategy, I disagree with Guyer about the reasons why. According to Guyer, Kant fails to explain how we move *from* empirical knowledge *to* its *a priori* basis. I shall argue that Kant fails to explain how we move from the *a priori* basis (specifically the transcendental unity of perception) *to* empirical knowledge. Secondly, I believe that Guyer is mistaken

Kant's *Analytic*, and Wolff, *Kant's Theory of Mental Activity*. For some general critiques of this view, see Ameriks, Karl, "Kant's Transcendental Deduction as a Regressive Argument, 277-281. I am sympathetic to Ameriks' criticisms, but to discuss this alternative approach in detail would take me far outside the scope of this chapter.

¹³⁶ Guyer, *Kant and the Claims of Knowledge*, 108. Guyer is drawing on a passage from the A Deduction where Kant writes: "our thought of the relation of all cognition to its object carries something of necessity with it, since namely the latter is regarded as that which is opposed to our cognitions being determined at pleasure or arbitrarily rather than being determined *a priori*" (A104).

¹³⁷ Guyer, *Kant and the Claims of Knowledge*, 108.

in framing the Deduction first and foremost as a problem of *knowledge*. As I argued above, Kant's conception of "objective validity" is much more epistemologically humble than the common use of the term; it indicates merely that the categories are a necessary condition for the experience of objects, and not necessary that these objects are "known" in some higher-order sense. Hence Guyer is mistaken in suggesting that we have to *know* the categories in order to make use of them (e.g. when he says "it is not immediately apparent why the rules which connect its several representations into the representation of a whole must themselves be known *a priori*").¹³⁸ At several points, Kant makes clear that the kind of combination brought about by the categories need not be a conscious one.¹³⁹ Thus, Kant's concern is not to show how we move from an experience of potentially knowable objects to knowledge of them, but rather with how it is even possible to have an experience of potentially knowable objects.¹⁴⁰

§4 The Unity of Apperception and the Unity of Objects

The first section of the transcendental deduction proper (§15) has two purposes. Although intuition supplies a manifold to the mind, the combination or synthesis of the manifold does not come through intuition but rather the understanding. The understanding, we will remember, is defined by its spontaneity as opposed to the receptivity of intuition, and so Kant speaks of "the fact that we can represent nothing as

¹³⁸ Guyer, *Kant and the Claims of Knowledge*, 108.

¹³⁹ For example, "all combination, *whether we are conscious of it or not*, [...] is an action of the understanding" (B130), and elsewhere he says that synthesis is "a blind though indispensable function of the soul, without which we would have no cognition at all, but of which we are seldom even conscious" (A78/B104). See also Longuenesse, *Kant and the Capacity to Judge*, 64-66 for the various places in Kant's *oeuvre* where he discusses unconscious representations.

¹⁴⁰ In the Addendum to this chapter I address a further difficulty regarding the experience of potentially knowable objects that stems from Kant's difficulty in distinguishing a subjective time sequence from an objective time sequence in the Second Analogy.

combined in the object without having previously combined it ourselves, and that among all our representations *combination* is the only one that is not given through objects but can be executed only by the subject itself, since it is an act of its self-activity.”¹⁴¹ All this ought to be familiar from our discussion in Section Four of Chapter Three. But Kant also introduces something new in §15. He suggests that besides the manifold and its synthesis, another unity is required. This unity is not the same as the category of unity, and it does not “arise from the combination.”¹⁴² This non-categorical unity is supposed to be the “ground of the unity of different concepts in judgments.”¹⁴³ In §16 Kant makes clear that this unity is in fact self-consciousness: “The *I think* must be able (*muß... können*) to accompany all my representations; for otherwise something would be represented in me that could not be thought at all, which is as much as to say that the representation would either be impossible or at least would be nothing for me.”¹⁴⁴ As Allison has noted, the modality of this statement is somewhat convoluted.¹⁴⁵ Kant is not claiming that “I think” *does necessarily* accompany all my representations, but that the “I think” *must be able* (*muß... können*) to accompany them. In other words, Kant is asserting the necessity of a possibility. The potential for thought is thus introduced as a condition for our representing. We would not be able to represent something – a representation would be nothing for us – unless we are able to ascribe this representation to our own consciousness. Hence all of our representations are united by the possibility of this ascription to consciousness.

¹⁴¹ B130.

¹⁴² B131.

¹⁴³ B131.

¹⁴⁴ B132

¹⁴⁵ Allison, *Kant's Transcendental Idealism*, 163-164. The same point is made by Longuenesse, *Kant and the Capacity to Judge*, 66.

Kant further insists that this consciousness must be one or unitary. If the consciousness to which one representation is ascribed is different from the consciousness to which another representation is ascribed, then there is no unity between the representations. Kant suggests that this is what happens in our empirical consciousness since “the empirical consciousness is by itself dispersed and without relation to the identity of the subject” and it “does not yet come about by my accompanying each representation with consciousness, but rather with my *adding* one representation to the other and being conscious of their synthesis.”¹⁴⁶ Kant takes it as uncontroversial that our empirical selves are always changing: we learn new things, forget old ones, develop new habits, lose old ones, etc. But in order to represent the combination of representations in an object, we must be able to ascribe those representations to *one consciousness*. In other words, there is a need for a ‘transcendental’ consciousness apart from the merely empirical one.

This transcendental unity of consciousness is the central concept of the B Deduction, and it is one that Kant describes in hylomorphic terms. In the title to §17 Kant calls this the “the logical form of all judgments.” This is appropriate, given Kant’s initial definition of form in the Transcendental Analytic: “that which allows the manifold of appearance to be ordered in certain relations I call the form of appearance.”¹⁴⁷ This ordering of appearances is, in fact, the main function of the mind.¹⁴⁸ In the middle of a long sentence contrasting our own understanding with that of a divine mind, Kant makes a passing remark about the unity of apperception: “the unity of apperception, which

¹⁴⁶ B133.

¹⁴⁷ B34. See my discussion of this passage in Chapter Two.

¹⁴⁸ One important facet of this ordering is our ability to order perceptions in time, which Kant discusses in the Second Analogy, and which I address in the Addendum to this chapter.

therefore cognizes nothing at all by itself but only combines and orders the material for cognition [*den Stoff zum Erkenntnis... verbindend und ordend*].”¹⁴⁹ Such a model of the mind evokes the image of an artisan, who gives form to a matter to produce a product. The mind assembles a material, orders it together, and produces a cognition, i.e. a representation of an object. How does this model stand in relation to the deduction of the categories?

Kant’s account of this is somewhat convoluted. The basic idea of the unity of apperception is that “the ‘I think’ must be able to accompany all my representations.”¹⁵⁰ At first glance, Kant would seem to sound like a Cartesian (or perhaps Fichtean)¹⁵¹ and would seem to claim that this “I think,” this self-consciousness is an originary action of the mind. But Kant goes on to make clear that this is not the case. The discovery of self-consciousness is only possible because we are already conscious of other things: “it is only because I can combine a manifold of given representations *in one consciousness* that it is possible for me to represent the *identity of consciousness in these representations* itself.”¹⁵² The mind would not be conscious of its own identity unless it actually combines a manifold of content, and, so to speak, sees its own identity through that

¹⁴⁹ B149.

¹⁵⁰ B131-132.

¹⁵¹ See for example, Fichte, *Fundamental Principles of the Entire Science of Knowledge*, §1 (I, 94-95) in *The Science of Knowledge*. That Kant held such a view was advocated by Henrich, Dieter, “Fichtes ursprüngliche Einsicht” in *Subjektivität und Metaphysik: Festschrift für Wolfgang Cramer*, ed. Dieter Henrich and Hans Wagner (Frankfurt: Klostermann, 1966), 188-232. This view has been criticized by Ameriks, Karl, “Kant, Fichte, and Apperception,” *Kant and the Fate of Autonomy: Problems in the Appropriation of Critical Philosophy* (Cambridge: Cambridge University Press, 2000), 234-264; and Allison, Henry, *Kant’s Transcendental Deduction*, 340-341. I am in agreement with these criticisms that Kant does *not* claim that “*separate and prior* awareness of the identity of the self as an enduring object (a person) underlies and discloses the conditions sufficient for the objective unity of experience that is asserted in the transcendental deduction” (Ameriks, “Kant, Fichte, and Apperception,” 244). That is because, as I will argue below, we do not have an awareness of the identity of the self *separate and prior* to our awareness of the manifold. Henrich himself seems to make the same argument in his later essay, “Identity and Objectivity,” 166-169.

¹⁵² B133. A similar claim is made in the A Deduction (A108).

combination of the manifold. In other words, the *consciousness* of a content is prior to *self-consciousness*. This accords with Kant's basic claim that the understanding is by itself empty of content: "through the I, as a simple representation, nothing manifold is given."¹⁵³ Yet the "I" must already in some (pre-conscious) sense be identical in order for it to combine the manifold. If the same "I think" did not accompany all of its representations, then the manifold itself would not be united. But it cannot be conscious of its own identity until it actually combines these representations in one consciousness.

In this regard, §17 contains the most crucial argument in the whole deduction. For it specifies the relation between the unity of consciousness and the cognition of an object. I shall split up the key paragraph into its distinct claims:

[1] *Understanding* is, generally speaking, the faculty of *cognitions*. These consist in the determinate relation of given representations to an object. [2] An *object*, however, is that in the concept of which the manifold of a given intuition is *united*. [3] Now, however, all unification of representations requires unity of consciousness in the synthesis of them. [4] Consequently the unity of consciousness is that which alone constitutes the relation of representations to an object, thus their objective validity, and consequently is that which makes them into cognitions and on which even the possibility of the understanding rests.¹⁵⁴

The first claim [1] gives a definition of understanding and of cognitions. Here Kant is seemingly deferential to a traditional view of the relationship between the mind and world: the understanding is responsible for cognition or knowledge, and this consists in relating representations to objects. But the ensuing claims in the paragraph fundamentally reshape this traditional view, starting with Kant's novel definition of an object in [2] as "that in the concept of which the manifold of a given intuition is *united*." This conception of an object accords with what I have argued in Chapter Three, namely that objects are

¹⁵³ B135.

¹⁵⁴ B137.

synthetic unities.¹⁵⁵ We cannot think of an object except as some kind of collection of disparate properties that are experienced as belonging together. This definition of an object is no aberration. In a note written towards the end of his life, Kant affirmed essentially the same notion: “What is an object? That whose representation is a sum of several predicates belonging to it [...]. An object is that in the representation of which various others can be thought as synthetically combined.”¹⁵⁶ What the definition in §17 introduces in particular is that the manifold of properties is united in a *concept*, which means ultimately by an act of the understanding.

By thus introducing conceptuality into the definition of an object, Guyer argues that Kant has succumbed to the *petitio principii* that dooms this version of the deduction from the start. If there can be no objects without concepts, and no concepts without categories, then Kant has — unjustifiably in Guyer’s view — inserted the notion of universal and necessary validity into the very concept of an object.¹⁵⁷ But Guyer’s objection only makes sense if there are no independent reasons for accepting Kant’s account of an object. Guyer’s account seems to view as non-essential the synthetic character of objects, which is precisely what I have tried to defend earlier in this dissertation.¹⁵⁸ For example, an apple consists of sweetness, mealiness, edibility, etc. If these contents were experienced entirely separately, then they would not make up that *one* thing that we call an apple. What Kant had argued in §15 and argues here in §17 is that the reason that we experience the qualities *together* is not due to intuition, but rather to the concept (and *a fortiori* the understanding) that synthesizes them together. What is

¹⁵⁵ See *infra*, Chapter Three, §4.

¹⁵⁶ R6350 (18:676), dated to 1796-98.

¹⁵⁷ See Guyer, *Kant and the Claims of Knowledge*, 103, 116-118, and 435-436 n. 14.

¹⁵⁸ See *infra*, Chapter Three, §4.

necessary in this experience is the synthetic character of objects *in general*. Contrary to what Guyer suggests, Kant does not presuppose that the *particular* properties of an object necessarily belong to one another. It is not necessary that apples be red, or even that a red apple is red (its color may be contingent on a variety of factors, such as its ripeness or the lighting in which it is viewed). But we could not experience any kind of synthetic object like an apple unless the mind is capable of holding together a diversity of properties in a unity. In this way, far from being an illicit assumption, Kant has good reasons for believing that an empirical unity has an *a priori* basis.

Kant's account of the role of a *concept* in the definition of an object is more expansive in the A edition than in the B. After enumerating two other syntheses of consciousness, the syntheses of apprehension and reproduction, Kant turns to a third: the synthesis of reproduction in a concept. There Kant writes that "without consciousness that that which we think is the very same as what we thought a moment before, all reproduction in the series of representations would be in vain."¹⁵⁹ If we reproduced representations that we experienced earlier, but did not recognize them as what we had experienced earlier, then the representation of a manifold as a whole would not be able to arise. For example, if I turned my gaze all the way around the room clockwise, and returned back to my starting position, but did not recognize it as such, then it would not be clear to me that I had viewed the complete room. Instead, I would continue turning clockwise, and again not recognize what I had seen before and thus experience each new perspective on the room entirely anew. In order to truly reproduce a representation, we must be able to recognize the representation as a reproduction, otherwise, as Kant writes,

¹⁵⁹ A103.

“it would be a new representation in our current state, which would not belong at all to the act through which it had been gradually generated, and its manifold would never constitute a whole, since it would lack the unity that only consciousness can obtain for it.”¹⁶⁰ In this way, we would not even be able to have an experience of a discrete object if we were not able in principle to *identify* it in a concept.¹⁶¹ When we perceive an object and recognize it (even only implicitly) as something more than a fleeting impression, i.e. as something that can persist through time, this representation is already conceptual. In other words, the ability to *identify* an object goes hand-in-hand with the ability to *re-identify* it. Furthermore, these abilities require a unity of the subject that persists through time.¹⁶² Hence Kant writes: “it is this *one* consciousness that unifies the manifold that has been successively intuited, and then also reproduced, into one representation.”¹⁶³

It is worth emphasizing that the definition of an object in [2] at B137 as “that in the concept of which the manifold of a given intuition is united” makes no mention of externality or mind-independence.¹⁶⁴ For Kant, ‘object’ means first and foremost a determinate unification of a manifold. The question of whether such a determinate unification exists (transcendentally) inside or outside our mind is not of any concern to him. As we shall see below, Kant does try to offer criteria in §19 to distinguish between what he calls an “objective unity” of apperception and a “subjective unity” of

¹⁶⁰ A103.

¹⁶¹ Here I am only asserting that the *ability* to identify objects is a precondition of experiencing them. We do not actually have to *identify* them in order to experience them.

¹⁶² My interpretation thus differs from Allison who sees Kant as here describing the generic identity of objects. Allison, *Kant’s Transcendental Deduction*, 218-219. In my view, such a generic identity of objects (i.e. recognizing that two numerically distinct objects fall under the same concept) is a higher-order cognitive function that presupposes this ability to re-identify a numerically identical object.

¹⁶³ A103.

¹⁶⁴ Scholars who have taken *independence* to be the crucial feature of Kant’s conception of objects include Brid, Graham, *Kant’s Theory of Knowledge*, 130-135; Guyer, *Kant and the Claims of Knowledge*, 11; Pereboom, Derk, “Kant’s Metaphysical and Transcendental Deductions,” in *A Companion to Kant*, edited by Gram Bird (Malden: Blackwell, 2006), 160.

apperception, but he does not do so on the basis of what is external as opposed to what is internal. It is in this sense of ‘object’ that we must understand Kant’s endeavor in the deduction to demonstrate the ‘objective validity’ of the categories. Their objective validity does not necessarily mean that they are applicable to extra-mental entities, but rather that they are applicable to determinate unifications of manifolds.

Claim [3] in the paragraph at B137 states that “all unification of representations requires unity of consciousness in the synthesis of them.” This is, of course, a restating of what Kant had established in §16. But given that Kant has just claimed in [2] that an object is “that in the concept of which a manifold is united,” this claim now makes clear that the synthetic unity of the manifold is a *necessary* condition for us to be presented with objects. If objects are unities of manifolds, those unities could not be experienced without the synthetic unity of apperception, i.e. without concepts and the understanding. For this reason, we can reject the claim of non-conceptualist interpretations of Kant that intuition is sufficient “for us to have experience of perceptual particulars (to be presented with objects).”¹⁶⁵ Any such “objects” that are presented to us without the synthesizing activity of the understanding could only be highly abstract — at one point Dieter Henrich suggests that a bare tone or color might constitute such a representation.¹⁶⁶ But aside from these limit cases, if something has mere spatial extension, e.g. a line, then it also requires a synthesis for its representation and, at a bare minimum, a categorial determination of its quantity.¹⁶⁷

¹⁶⁵ Allais, *Manifest Reality*, 259.

¹⁶⁶ Henrich, Dieter, “Identity and Objectivity,” *The Unity of Reason*, 155-156.

¹⁶⁷ “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 given manifold” (B137-138).

There is, however, significant ambiguity about what the synthetic unity of consciousness entails. The fourth and final claim at B137 then concludes from [2] and [3] that “the unity of consciousness is that which alone constitutes the relation of representations to an object.” There is a controversy, however, about whether this fourth claim truly follows from what came before. When Kant says in [3] “all unification of representations requires unity of consciousness in the synthesis of them” he seems to state that the unity of consciousness is a *necessary* condition for the representation of objects. But when he concludes from [3] that “the unity of consciousness is that which alone [!] constitutes the relation of representations to an object” he seems to state that the unity of consciousness is a *sufficient* condition for the representation of objects. This has been called a “gross non-sequitur.”¹⁶⁸ Furthermore, if it is true that the unity of consciousness were a *sufficient* condition for the representation of objects, this would seemingly lead to the awkward conclusion that *any* representation of an object, no matter how farfetched, would be true and that Kant is unable to distinguish between ordinary experience and hallucinations or dreams.¹⁶⁹ I believe that this accusation rests to some degree on the, more or less explicit, conventional assumption about what “the relation of representations to an object” means, i.e. a passage from the internal to the external, from contingent to the necessary, from the dependent to the independent. I have already critiqued such a view in Chapter Four, but there remains a question about what such a “relation of representations to an object” means. When Kant speaks of a “relation of

¹⁶⁸ Allison, Henry, *Kant’s Transcendental Idealism*, 174, and *Kant’s Transcendental Deduction*, 352-354; Guyer, *Kant’s and the Claims of Knowledge*, 117; Pereboom, “Kant’s Metaphysical and Transcendental Deductions,” 161. This problem recurs in the Second Analogy when Kant attempts to explain how we can distinguish a subjective time sequence from an objective one, which I discuss further in the Addendum to this chapter.

¹⁶⁹ I have already dealt with such an objection in a preliminary manner in Chapter 4, §3.

representations to an object,” he is evidently *not* referring to relating something subjective (here meaning: inside the mind) to something objective (here meaning: outside the mind). If that were the case, it is not at all clear how the unity of consciousness could accomplish such a relation. Instead, the ‘relation of representations to an object’ means uniting a manifold of contents into one, because this is precisely what it means to be an object. That is, Kant is not talking about the relation of some mental representation object to an empirical object outside us, but rather the synthesis of disparate sensations into one unified representation called “the object.”¹⁷⁰ This interpretation is borne out more clearly in Kant’s more expansive discussion of the concept of an object in the A Deduction.

The analysis of the concept of an object given in the B Deduction is admittedly much less detailed than that in the A edition, although the former has the advantage of greater conceptual simplicity. In the A edition, Kant spells out three different syntheses that are required for the cognition of an object: a synthesis of apprehension in intuition, of reproduction in imagination, and of recognition in a concept. I have already discussed the first and second of these syntheses in Chapter Three, where I argued the general point that any object involves a unification of disparate contents. Our focus now will be the third synthesis, i.e. the “synthesis of recognition in a concept,” and it is there that Kant outlines his theory of an object. Kant says that we are usually tempted to posit an object as something outside and distinct from our representations. But he argues that such a view is not really possible, given that we can only cognize appearances:

It is clear, however, that since we have to do only with the manifold of our representations, and that X which corresponds to them (the object), because it

¹⁷⁰ I believe that this view accords more or less with Henry Allison’s matured view about this in *Kant’s Transcendental Deduction*, 352-354, where he argues that Kant is here speaking about objects in a “thin” sense, i.e. a merely intentional object, which might include dream or hallucinatory objects, as opposed to a “thick” object, i.e. something empirically real.

should be something distinct from all of our representations, is nothing for us, the unity that the object makes necessary can be nothing other than the formal unity of the consciousness in the synthesis of the manifold of the representations. Hence we say that we cognize the object if we have effected the synthetic unity of the representations.¹⁷¹

Kant's argument here involves several steps. First, we are tempted to posit objects as something distinct from our representations, but because "we have to do only with the manifold of our representations," such an idea of a distinct object is "nothing for us." This is the familiar thesis of transcendental idealism that no object of which we are aware can be entirely independent of our cognitive capacities. But if an object is not something distinct from our representations, how can it avoid being a mere something merely contingent or arbitrary? The answer to this question is not due to an object's being external to the mind but due to its nature as a synthetic unity. An object is supposed to be a unity of a manifold of properties. Ordinarily, we assume that we necessarily represent the various properties together *because* they belong together in the object. But Kant's assumptions rule out such an ordinary assumption. Instead, he claims that what holds together the various properties of an object, and what represents them as all belonging to *one* thing, is "nothing other than the formal unity of the consciousness in the synthesis of the manifold of representations." That is, the formal unity of consciousness confers that unity onto the things that it represents. What makes an object into an object is this unity of consciousness.

But there is another question here: why do we represent the various properties together, i.e. as a unity, as belonging to one object? There would seem to be two possible answers, both of which are suggested at times by Kant. One is that this unity of the object

¹⁷¹ A105.

is something *imposed* by the mind on the manifold.¹⁷² The other is that the mind *restricts* itself to representations that are amenable to this kind of unification.¹⁷³ Both interpretations have their drawbacks. If the unity is something *imposed* by the mind on the manifold, then it would seem to be something arbitrary and contingent.¹⁷⁴ On the other hand, the restrictionist view suggests that the mind is guided in some way by the content of what it receives; that it receives a variety of impressions and only the ones that fit, so to speak, are raised to the level of consciousness. But this view seems to attribute too much to receptivity. If the mind already knows which properties go together and which do not, then this would seem to minimize or even render irrelevant the synthesis of the understanding as a fundamental component of cognition.¹⁷⁵ This dilemma between the restriction and impositionist views reflects a deep uncertainty about Kant's Copernican Revolution: is it truly possible for something to be subjective and yet necessary? Can it actually be that "we can cognize of things *a priori* only what we ourselves have put into them"?¹⁷⁶

§5 The Objective and Subjective Unities of Consciousness

¹⁷² The most prominent advocate of this view is Henry Allison. For a lengthy defense of this view, see Allison, *Kant's Transcendental Deduction*, 444-448.

¹⁷³ The most prominent advocate of this view is Paul Guyer in *Kant and the Claims of Knowledge*, 53-61. I believe Longuenesse was also tempted by such a view when she writes that "If the solution proposed [to the deduction] is to be at all plausible, something *in the nature of appearances themselves* must make them agree with the forms of the logical use of the understanding and, if the categories are originally nothing else but the logical functions according to these forms, with the categories" (Longuenesse, *Kant and the Capacity to Judge*, 28).

¹⁷⁴ This objection goes back at least as far as Herbart, which I have discussed in Chapter Two, §5.

¹⁷⁵ This same criticism has been made by Henry Allison against the view of Kenneth Westphal. See Allison, *Kant's Transcendental Deduction*, 283-284; Westphal, *Kant's Transcendental Proof of Realism*, 56-61. Kant's Second Analogy offers another attempt to resolve this dilemma by arguing that the reversibility of irreversibility of certain perceptions allows us to discern how a certain series of perceptions should be synthesized. I criticize this attempt in the Addendum to this chapter.

¹⁷⁶ Bxviii.

The answer to these questions is given, if anywhere, in sections §§18-19 of the B deduction, which endeavor to show the connection between apperception, objective validity, and judgment. Kant's account of this is notoriously fraught. For instance, Kant starts off §18 by distinguishing a subjective unity of consciousness from an objective unity of consciousness in the following way: "The *transcendental unity* of apperception is that unity through which all of the manifold given in an intuition is united in a concept of the object. It is called *objective* on that account, and must be distinguished from the *subjective unity* of consciousness, which is a determination of inner sense, through which the manifold of intuition is empirically given for such a combination."¹⁷⁷ The first sentence accords with what I have already argued: we could not represent an object without the unity of apperception, and that is because an object is nothing other than a unity of a manifold. Hence this unity is called "objective," i.e. objectivating or productive of an object. But if someone were to object that this unity is merely contingent and not necessary, then the subsequent clause gives no reassurances. To ascribe the subjective unity of consciousness to inner sense and what is empirically given — even if architectonically correct within Kant's system — does not offer any response to someone who holds that the transcendental unity of apperception also confers merely contingent unity upon the representation. Kant offers a distinction between the objective and subjective unity of consciousness, but no justification for how we are entitled to an objective unity of consciousness.¹⁷⁸

Another attempt at an answer is given in §19. There Kant suggests that it is not the transcendental unity on its own that confers objectivity on a manifold but rather

¹⁷⁷ B139.

¹⁷⁸ As I discuss in the Addendum to this chapter, Kant arguably offers a justification for this in the Second Analogy, which, however, I find to be inadequate.

judgment: “a judgment is nothing other than the way to bring given cognitions to the *objective* unity of apperception. That is the aim of the copula *is* in them: to distinguish the objective unity of given representations from the subjective.”¹⁷⁹ At first glance, this suggestion is not much better than the one given in §18. Just as we can experience certain objects (e.g. in dreams or hallucinations) that belong merely to the contingencies of our subjective state rather than to a shared and lawful empirical world, so too is it possible to make patently absurd judgments like “the sky is green at noon.” It is possible that an individual has such an experience but we would doubt that making such a judgment is sufficient for distinguishing “the objective unity of given representations from the subjective.” The common solution to this problem is to say that Kant is not asserting that judgment by itself *guarantees* a connection to an object, but rather that it *asserts* a connection to an object, which may turn out to be true or false.¹⁸⁰ Judgment thus serves as a kind of objectivating norm: we experience certain impressions in combination and ascribe that combination not to the contingencies of our own experience, but rather to the object.

If this interpretation is correct, however, it means that judgment itself does not actually “distinguish the objective unity of given representations from the subjective” in the sense that it would *entitle* us to say that a particular combination genuinely belongs to an object rather than the empirical contingencies of our own experience. Despite what Kant says, judgment would therefore not provide “a relation [of representations] that is *objectively valid*, and that is sufficiently distinguished from the relation of these same

¹⁷⁹ B141-142.

¹⁸⁰ Longuenesse, *Kant and the Capacity to Judge*, 82; Allison, *Kant’s Transcendental Deduction*, 366.

representations in which there would be only a subjective validity.”¹⁸¹ The normative interpretation says that judgment makes a *claim* to objectivity, but Kant’s statement says that judgment should actually *entitle* us to it. Although the normative interpretation of judgment is thus introduced to salvage some of the odder claims that Kant makes in §19 and develop some conception of the connection between apperception, judgment, and objects, it undercuts this connection by eliminating the ability to distinguish an objective unity of consciousness from a subjective one.

That Kant does actually believe that we can make such a distinction is evidenced by his contrasting of two judgments: “If I carry a body, I feel a pressure of weight” and “It, the body, *is* heavy.” Kant says that the former judgment is an example that accords with the empirical laws of association. In the first judgment we have two distinct representations – carrying a body and feeling a pressure of weight – that are not expressly united. The weightiness that I feel is not attributed to the body but rather left as an indeterminate coincidence of carrying a body. That is, it asserts merely the coincidence of two impressions that an empirical subject has at a given moment. Such a coincidence may turn out to be a mere accident of the contingencies of that subject, and may not be repeated again by them or by others who are in a similar situation. By contrast, when we say “the body is heavy” we assert “that these two representations are combined in the object, i.e. regardless of any difference in the condition of the subject, and are not merely found together in perception (however often as that might be repeated).”¹⁸² Hence when we ascribe a predicate to an object, we assume that this ascription will hold true regardless of the particular contingencies of an empirical subject. In other words, it is not

¹⁸¹ B142.

¹⁸² B142.

merely my own perception, a fact about me, that when I carry a body I feel a pressure of weight, but rather that this pressure is due to the body itself. Hence *whoever* carries a body feels a pressure of weight. In this way, as we have seen from the *Prolegomena*, the object is supposed to provide the ground for intersubjective validity.

Though this distinction may be sensible, its justification is still unclear. What actually entitles us to such a judgment that “the body is heavy”? Longuenesse, at any rate, entertains the possibility that this judgment may turn out to be nothing more than “the empirical generalization of a customary association between impressions of weight of carrying a body,”¹⁸³ in which case the judgment would not have the objective validity for it and the category of causality would turn out to be something like a Humean habit. Based on Kant’s argument up to this point, we should expect that the unity of apperception explains how we perceive these two representations together. However, it is not clear how the unity of apperception allows us to go beyond the mere association of subjective impressions and state that they are “combined in the object.” The synthetic unity of apperception establishes that all of my representations must (i.e. necessarily) be able to belong to one consciousness. But just because two representations belong to one consciousness does entail that those representations belong together *necessarily in the object*.

Kant is aware of this problem and seeks to head it off with a clarification. When we make a judgment like “the body is heavy,” he says, “I do not mean to say that these representations *necessarily* belong to one another in the empirical intuition, but rather that they belong to one another *in virtue of the necessary unity* of the apperception in the

¹⁸³ Longuenesse, *Kant and the Capacity to Judge*, 83.

synthesis of intuitions.”¹⁸⁴ The question here is what entitles us to the objective validity that claims that our judgment is not merely a subjective association of representations, but rather something that belongs to the object, hence something counts as universal and necessary and demands assent from all individuals. In the first clause, Kant says that this objective validity does not pertain to empirical intuition. This claim ought to be shocking since it suggests a serious limitation on our ability to formulate objectively valid judgments on the basis of experience even within a Kantian framework. This admission has been taken by Paul Guyer as evidence for the failure of this strategy for the transcendental deduction.¹⁸⁵ The second clause seemingly offers a correction to this by suggesting that the representations “body” and “heavy” necessarily belong together not in an empirical intuition but “in virtue of the necessary unity of the apperception in the synthesis of intuitions.” In one sense, this seems to repeat the same trap we discussed in the previous paragraph. Even if the synthetic unity of apperception necessitates that all of our representations belong together in one consciousness, this does not mean that any particular representations must belong together in an object. There is another sense of necessity, however, that can be gleaned from this passage that I shall discuss below, but first, an alternative interpretation must be addressed.

Kant does go on to specify immediately after this that there are principles derived from the unity of apperception that yield “the objective determination of all representations insofar as cognition can come from them,”¹⁸⁶ which is presumably supposed to offer the completion of his argument that we can distinguish a subjective

¹⁸⁴ B142.

¹⁸⁵ Guyer, *Kant and the Claims of Judgment*, 142.

¹⁸⁶ B142.

unity of consciousness from an objective unity. Kant is obviously referring to what he will go on to discuss in the Analytic of Principles, which seeks to explain “the possibility of applying *pure concepts of the understanding* to appearances in general.”¹⁸⁷ This suggestion has been noted by Henry Allison and taken very seriously by Longuenesse.¹⁸⁸ However, I am skeptical that this suggestion justifies Kant’s argument in §19, although to offer a thorough explanation of this would take us outside the scope of this dissertation.¹⁸⁹ It suffices to say briefly that even Longuenesse includes the qualification that “only a metaphysics of nature can fully justify the move from a judgment of perception [i.e. a subjective unity of consciousness] to a judgment of experience [i.e. an objective unity of consciousness]. And it can do this because its own universal principles rely on a prior demonstration of the objectivity of the categories (the demonstration provided in the Critique) and thus on the demonstration of our right to convert our judgments of perception into judgments of experience.”¹⁹⁰ If she is right, this risks turning Kant’s system into a gigantic circular argument:

1. The success of the deduction requires a justification of our ability to distinguish a subjective unity of consciousness from an objective unity of consciousness.
2. This can only be completed in a metaphysics of nature.

¹⁸⁷ A138/B177.

¹⁸⁸ Allison, *Kant’s Transcendental Deduction*, 355-356; Longuenesse, *Kant and the Capacity to Judge*, 82-85 and 170-180.

¹⁸⁹ In the Addendum to this chapter, I address, and critique, what I think is the strongest point of this interpretation, namely that the Second Analogy offers an independent argument for the objective unity of consciousness.

¹⁹⁰ Longuenesse, *Kant and the Capacity to Judge*, 175. Longuenesse is here using the terminology of Kant’s *Prolegomena* rather than the B-Deduction, but the point remains the same.

3. But a metaphysics of nature requires the success of the deduction, i.e. that we can legitimately distinguish a subjective unity of consciousness from an objective unity of consciousness.

The success of the deduction therefore hangs on a legitimation of our ability to distinguish a subjective unity of consciousness from an objective one, but such a legitimation is not to be found in §19.

§6 *Natura Formaliter Spectata*

When Kant says that the terms of the judgment “the body is heavy” belong together not in virtue of an empirical intuition, but “in virtue of the necessary unity of the apperception in the synthesis of intuitions,” I have argued that this casts serious doubt on our ability to achieve any *a priori* knowledge about the empirical world and fails to explain how we can distinguish an objective unity of consciousness from a subjective unity. Such a failure would seemingly send Kant back into an empiricist position, according to which our knowledge can be only more-or-less general, but never achieve the strict universality and necessity implied by the term *a priori*.¹⁹¹ I do not think that such a failure is inevitable, however, although in order for the deduction to “succeed” some of Kant’s deep-seated convictions must be reevaluated.

What the Deduction, and indeed all of the *Critique* up to this point, offer is an account of what Kant calls “nature formally considered” (*natura formaliter spectata*).¹⁹² That is, Kant seeks to describe the *form* of nature, understood as the standard of its lawfulness. This lawfulness, as I have argued, can only be subjective. As Hume has

¹⁹¹ See B3-4.

¹⁹² B165. Cf. *Prolegomena* (4:296).

shown, no universal and necessary law can be something “given” to mind from without.¹⁹³ Kant’s response to this problem is to explain how a universal and necessary law can arise from within the mind. But as I have argued in Chapter Two and in this Chapter, Kant struggles to explain how these forms (of intuition and of the understanding respectively) penetrate down to the empirical, i.e. to matter.

Kant’s main strategy for explaining this is to appeal to the transcendental ideality (but empirical reality) of matter. That is, if we treat the contents of sensation not as something inherently real, but rather as a mere “appearance,” then the problem of how we can cognize empirical objects *a priori* is supposed to vanish. Indeed, he makes the same appeal at the end of the transcendental deduction: “It is by no means stranger that laws of appearances in nature must agree with the understanding and its *a priori* form, i.e., its faculty of *combining* the manifold in general, than that the appearances themselves must agree with the form of sensible intuition *a priori*. For laws exist just as little in the appearances, but rather exist only relative to the subject in which the appearances inhere insofar as it has understanding.”¹⁹⁴ It is true that the mind could not have any *a priori* cognition of what is in principle heterogeneous to it, i.e. what is transcendently real or a “thing in itself,” so that if the mind is to have any *a priori* cognition, this must be of appearances. But while such an argument is *necessary*, it is not *sufficient*. For it still must be explained how the mind goes beyond its “rhapsody of impressions”¹⁹⁵ in order to know that “these two representations are combined in the object, i.e. regardless of any

¹⁹³ I have argued in Chapter Four §3.

¹⁹⁴ B164.

¹⁹⁵ A155/B196.

difference in the condition in the subject, and are not merely found together in perception.”¹⁹⁶ Such a transition cannot be explained by transcendental idealism alone.

There are particular theses of Kant’s that I think can withstand this objection. It is correct to conceive of objects as a unity of manifold and to point out the correlative synthetic unity of apperception that is needed to perceive and think of such objects. *If* we are to perceive an object, we *must* have a unity of consciousness that can grasp its manifoldness together as one. There is little doubt that we do this with many commonplace objects: when I look out at the glorious Sandia mountains, I see a variety of slopes and ridges, the different hues of the rocks and minerals, the bushes and trees that pepper its surfaces, which blur into an indefinite green. The wildlife that dwells there is invisible from the point at which I stand. The slope of the mountains goes from a sharp incline near the peak to a more gradual one near the base as if someone had draped their outer surface over some hidden object, which makes it impossible to demarcate them precisely. Their boundaries undoubtedly extend beyond the one face of them that I see. Most of the time the mountains appear to be a light tawny brown, but for a few minutes each day the minerals in the mountains reflect the setting sun and irradiate red and pink. — Such a description is reflective of what Kant would call a subjective unity of consciousness (and one that is not particularly trained in the sciences physics, geology, botany, etc.). Could it be converted into an objective one in which it is claimed that these representations are “combined in the object, i.e. regardless of any difference in the condition of the subject, and are not merely found together in perception”? That seems doubtful, even for someone trained in the relevant sciences as I am not.

¹⁹⁶ B142. In the Addendum, I address a similar kind of argument that Kant develops in the Second Analogy.

In a section of the Transcendental Dialectic on the “Transcendental Ideal,” Kant argues that the thoroughgoing determination of an object is a mere ideal of reason. To cognize an object thoroughly would require not just that we determine it with regard to its given predicates (the ones that are empirically available to us), but with regard to all possible predicates. For this reason, “in order to cognize a thing completely one has to cognize everything possible and determine the thing through it, whether affirmatively or negatively. Thoroughgoing determination is consequently a concept that we can never exhibit *in concreto* in its totality, and thus it is grounded on an idea which has its seat solely in reason.”¹⁹⁷ Obviously, a finite mind like our own does not have access to every possible determination, and so our cognition of *any* object will be limited. But the impossibility of thoroughgoing determination makes it necessary to reconsider what it means to cognize an object at all. To determine means to set a *terminus*, a boundary for something, just as to define means to set a *fines*, an end. It requires an ability to say where a thing stops, where its limits are, and where a new thing begins. But if we cannot determine a thing thoroughly, to set these limits with certainty, and say “the object is *this* and not *that*,” we may rather find that the boundaries between things are blurry and that they may bleed into one another, just as the slope of the mountains melt into the surrounding land. More scientifically, we may find that two things long believed to be distinct like energy and matter may be transformed into one another according to a fixed ratio based on the speed of light. Or we may find that something apparently unitary and homogenous like the water in my glass is in fact a chemical compound of heterogeneous hydrogen and oxygen molecules (and those are compounds of yet other heterogeneous

¹⁹⁷ A573/B601.

particulars). Seemingly aware of this problem, Kant goes on to argue that no empirical concept can be defined since the marks (*Merkmale*) that we use to define such a concept can never be exhaustive and may differ from one time to the next.¹⁹⁸

If no empirical concept can be defined, what does that mean for Kant's definition of an object in the B Deduction as "that in the concept of which a unity of a manifold is united"?¹⁹⁹ If no empirical concept can be defined, then *a fortiori* neither can any empirical object. We can never be sure that the manifold of properties that we perceive as an object are actually combined in such a way that we are entitled to say "these two representations are combined in the object, i.e. regardless of any difference in the condition in the subject, and are not merely found together in perception."²⁰⁰ This means, I suggest, that the concept of an object and the forms of experience that give rise to it are much closer to what Kant calls a "regulative idea" in the Dialectic.²⁰¹ Rather than determining something about an object, they determine our consciousness to be *in search of an object* — without any guarantee that this search will be successful. This does not deny that we may have various unified experiences of apparent objects and that these exhibit a high degree of regularity. But we are not able to pass over from this subjective unity of consciousness to an objective one.

Although this interpretation undoubtedly revises some of Kant's fundamental theses, there are ways in which it continues the spirit of them. I have said that the standard of objectivity for Kant is one of lawfulness, such that what makes something count as an object and what demands intersubjective validity is the fact that a

¹⁹⁸ A727/B755-A278/B756.

¹⁹⁹ B135.

²⁰⁰ B142.

²⁰¹ I discuss the concept of regulative principles in greater detail in the Addendum.

representation adheres to laws. The forms of experience — space, time, and the categories — are supposed to provide the ground for such laws. In the A Deduction Kant goes so far as to say that “the understanding is thus not merely a faculty for making rules through the comparison of the appearances; it is itself the legislative power (*Gesetzgebung*) for nature.”²⁰² In the B Deduction, however, Kant is quite clear that the pure understanding cannot completely determine those appearances in nature: “the pure faculty of understanding does not suffice, however, to prescribe to the appearances through mere categories *a priori* laws beyond those on which rests a *nature in general*, as lawfulness of appearances in space and time. Particular laws, because they concern empirically determined appearances, *cannot be completely derived* from them, although they all stand under them.”²⁰³ What the understanding establishes is thus not so much particular laws (*Gesetze*), but rather the general standard of lawfulness (*Gesetzmäßigkeit*). In this way, it is not possible to deduce from the categories particular laws which determine appearances. If my interpretation is correct, this lawfulness is something that determines our consciousness to search for particular laws, but it does not necessarily determine appearances themselves to be lawful.²⁰⁴ To return to some of Kant’s favored metaphors, if the understanding is a legislative power, it is without an executive. If the understanding is an artisan, it is not an alchemist: it must work with the material that it is given.

§7 Conclusion

²⁰² Guyer and Wood translate *Gesetzgebung* as “legislation,” which I find to be misleading since it loses the sense of *Gebung* (giving) in English.

²⁰³ B165.

²⁰⁴ I also address this in the Addendum when addressing Kant’s conception of regulative principles.

In this chapter, I have offered something of a revisionist account of Kant's arguments in §§15-20 in the B Deduction. It is my view that the key to the Deduction is Kant's conception of an object and its relation to the transcendental unity of apperception. But in the crucial §19 where the connection between these two ought to be demonstrated through the mediation of judgment, Kant's account fails. That is, he does not explain how judgment allows us to move from a subjective unity of consciousness to an objective unity of consciousness.

At the same time, I believe that the Deduction is salvaged by the fact that Kant lays out clear standards for the conditions of objectivity, even if his arguments cannot guarantee that those conditions will be satisfied. That is, he is right to consider objects as a unity of the manifold, and to argue that such a unity can only be produced by the mind, and requires the unity of apperception. Such conditions give us a picture of "nature formally considered" (*natura formaliter spectata*). But the forms that give rise to that nature are impotent to transform the matter that is given.

This is the fallacy of the impositionist model of form. It implies that the mind can determine appearances in any which way that it pleases, and offers no clear account of the boundaries of its jurisdiction. On the other hand, the restrictionist model tries to find something within the material — within appearances — that lends itself to our understanding. In this way, it risks succumbing to the trap of Humean skepticism and denying the active role of the understanding. To mediate between these two positions, I have suggested a more pragmatic model based on some indications from the Transcendental Dialectic. That is, the forms of experience determine our consciousness to search for an object in nature, but they cannot actually determine appearances to yield

such an object. This is not to say that Kant entirely fails to escape Humean skepticism, but Hume still has a grasp on his arm. Although Kant delineates a domain of the *a priori*, my argument indicates that Kant fails to explain how that applies to the empirical world. There remains a gulf between the *a priori* and *a posteriori*, between form and matter.

Addendum to Chapter Five

The Analytic of Principles has received comparably less attention among scholars than the Analytic of Concepts. One reason for this tendency is that the Analytic of Principles is presented as relying on the success of the Transcendental Deduction, which many commentators (myself included) have found to be inadequate. If the success of the Principles depends on the success of the deduction, then the failure of the Deduction also should also entail the failure of the Principles. There are also objections that the section on the Principles fails in its own right.¹ However, some notable scholars have also argued that the Analytic of Principles, particularly the Second Analogy, offers an independent argument for a kind of (generally non-idealist) Kantian philosophy.² It is not possible to offer a thorough analysis of these sections in detail, but I shall offer my own reasons for rejecting that view about the Second Analogy in this addendum. At the end, I shall indicate some areas of the Principles which will be the subject of future research and that would complement the argument that I have advanced so far about form and matter in the *Critique of Pure Reason*.

The goal of the Second Analogy is to establish the Principle of Causality. Kant's approach to this problem is a novel one that relies on examining the two kinds of time determinations: simultaneity and succession. Kant's aim is to show how we may

¹ See, e.g. Kemp Smith's introduction to the section (*Commentary*, 332-333), which outlines many of the common criticisms.

² Kenneth Westphal, for instance argues that the Second Analogy offers a proof of not merely empirical realism but unqualified realism, or what Westphal calls "realism *sans phrase*" (*Kant's Transcendental Proof of Realism*, 1-11). Paul Guyer (*Kant and the Claims of Knowledge*, 279-329) similarly argues that the best defense of the categories is found in the Refutation of Idealism. Even earlier, Strawson looked to the Analogies to develop a kind of "austere" Kantian account of how permanence and causality are possible but without Kant's metaphysical baggage (*The Bounds of Sense*, 116-153).

legitimately distinguish a subjective sequence of appearances from an objective one.³ It is undoubtedly true that all of our representations are sequential: e.g., we see one part of an object then another, we see one property and then it alters, etc. However, just because we perceive one thing after another (i.e. just because there is a subjective sequence) does not mean that there is any alteration in an empirical object (i.e. an objective sequence). The Second Analogy aims to explain how we may determine this empirically and thereby establish the principle of causality.

Put in this way, however, the problem is too superficial. For, this formulation presumes that there are “objects” independent of the kind of cognition that we have of them, such that the only question is whether we can differentiate a sequence that occurs merely in us from one that occurs also in the object. However, Kant goes so far as to say that there would not even be an “object” without an objective time sequence. If we are not able to organize our successive representations under rules that allow us to differentiate a change that occurs merely in our perceptions from one that occurs in the thing that we perceive, then we would not even be entitled to say that there are objects that have any true independence from our vacillating perceptions. Hence Kant writes: “appearance, in contradistinction to the representations of apprehension, can thereby only be represented as the object that is distinct from them if it stands under a rule that distinguishes it from every other apprehension, and makes one way of combining the manifold necessary.”⁴ In other words, our “representations of apprehension” can be arbitrarily combined in any variety of ways. But we are not entitled to designate a particular combination as an object unless that combination adheres to a rule that confers

³ Kant uses this language at A193/B238.

⁴ A191/B236.

necessity on it and that entails that the particular representations must be combined in one particular way and not otherwise. As I argued in Chapter Four, this is the idea that lawfulness is the real *desideratum* of objectivity and is what first entitles us to even speak of an “object.” It is also essentially the same problem that Kant addresses (inadequately in my view) in §19 of the B Deduction where he tries to explain how an objective unity of apperception can arise from a subjective unity of apperception.

Kant sets a clear standard for explaining how this can be proven. If we perceive one thing, A, and then another thing, B, in such a way that it is not possible for us to perceive B before A, then we can know that there is an objective sequence of appearances. The example that he gives to prove this is a ship being driven downstream. I perceive the ship first upstream, then downstream, and I realize (according to him) that “it is impossible that in the apprehension of this appearance the ship should be perceived downstream and afterwards upstream.”⁵ Because of this impossibility, “the order in the sequence of the perceptions in apprehension is here determined, and the apprehension is bound to it.”⁶ If Kant is right, then the fact that we perceive the ship first upstream and then downstream is due to the fact that the ship really was upstream first and then later downstream. The order of our perceptions is dependent on the order of changes in the object, so our representation of this change is not due merely to a change in us (a subjective sequence), but due to a change in the object (an objective sequence).

However, it must be asked: how do we know that it is *impossible* that the ship was first upstream and then downstream? Kant’s explanation of this is lacking. Surely there are empirical exceptions to this rule, e.g. if, unbeknownst to us, the ship had an engine, or

⁵ A192/B238.

⁶ A192/B237.

rowers, or if there were some strong countervailing wind that allowed it to be driven from downstream to upstream. But even if we are charitable to Kant and exclude these possibilities, it is necessary to interrogate how we *know* that it is *impossible* for a boat to be driven from downstream to upstream.

One could offer an explanation appealing to the law of gravity, and how it carries water from its source down to the oceans through the path of least resistance, and how buoyant objects like ships are carried along with the water. But since Kant's goal is to *establish* the principle of causality, of which the law of gravity is one example, then clearly his proof cannot appeal to that same principle. Alternatively, if that knowledge of causality is based merely on our previous empirical observations, then it is clearly inadequate to establish Kant's principle, which has an universal import: "all alterations occur in accordance with the law of the connection of cause and effect."⁷ Lastly, it would not make sense for that knowledge of the impossibility of the boat being driven upstream to be based on the pure category of relation. For Kant is here trying to demonstrate how that category is applied to the empirical world. If his example assumed that the category is applicable, he would be guilty of a circular argument.⁸

One alternative reading is that Kant's example of the ship is supposed to describe the necessary conceptual relations of a determinate event. As Henry Allison writes, "if I judge that I am perceiving a change in the position of the ship from point A at t_1 to point B at t_2 , then I must also think the order of my perceptions as determined, that is, I must think this order as A-B rather than B-A. One can, of course, imagine a different order of

⁷ B232.

⁸ It is also worth remembering his admission from the Deduction that "particular laws, because they concern empirically determined appearances, *cannot* be *completely derived* from the categories, although they all stand under them" (B165).

perceptions; but doing so one is imagining a different event, for example, a ship sailing upstream.”⁹ Allison’s reading, however, fails to address the major difficulty with Kant’s example. It is not a question of how we must *imagine* a particular event to occur: if we imagine a ship sailing downstream, it must occur in this way... It is a question of determining which event did occur: did the ship actually sail downstream? Allison’s analysis essentially leaves Kant’s example in the realm of the hypothetical, along the lines of “if we want to do X, then we must do Y.” But if the categories are to be applied to the empirical world, then there must be some justification for their actual application, otherwise we will be unsure of whether we are determining objects correctly.

In contrasting Kant’s conceptions of simultaneity and succession, Jay Lampert argues that the important criterion is reversibility. If I peruse the rooms of a house, I can see them in one determinate order, and then see them in reverse order, and this is what entitles me to say that the rooms of a house are simultaneous. But “conversely, when the states of an object exist at different times, I cannot perceive them in backwards order.”¹⁰ Thus, if I see a ship first upstream and then downstream, I cannot perceive it upstream again (again, if we exclude the kinds of empirical exceptions I mentioned above).

While Lampert’s point about the irreversibility of time shows a *necessary* condition for the principle of causality, it is not a *sufficient* one.¹¹ For, even if the states of an object exist at separate times, and even if we can thus detect an irreversible

⁹ Kant’s *Transcendental Idealism*, 250. A similar reading is found in Melnick, Arthur, *Kant’s Analogies of Experience* (Chicago and London: University of Chicago Press, 1973), 79-80, which Allison cites.

¹⁰ Lampert, Jay, *Simultaneity and Delay: A Dialectical Theory of Staggered Time* (London and New York: Continuum, 2012), 76.

¹¹ It should be noted that Lampert’s focus is on the concept of simultaneity, and that it was not his aim to follow Kant in establishing the principle of causality. In fact, Lampert shares some of my doubts about Kant’s example of the boat: “by the subjective test alone, how could I know that it is impossible to reverse the order of perceptions? It seems unlikely that the boat would suddenly reappear up there, but it is not as though Kant believes that any empirical fact is necessary, so why is this impossible?” (*Simultaneity and Delay*, 80).

succession, this does not mean that “all alterations occur in accordance with the law of the connection of cause and effect.”¹² For the fact of irreversibility only shows that I did perceive one state really occurred before another, but it does not show that “the relation between the two states must be thought in such a way that it is thereby necessarily determined which of them must be placed before and which after rather than vice-versa.”¹³ In other words, the mere fact of irreversibility does not posit a determinate *connection* between the earlier state and the later state, which allows us to say that the later state is determined by the earlier one, and which is really the idea of cause and effect.

It is possible to imagine a world in which irreversible successions occur, but where those successions are random and unpredictable. In that case, we would have some kind of “objective sequence,” but we would not be able to determine any future events on the basis of past ones. So if Kant’s example of the boat is to establish the principle of causality, then he must be able to rationally exclude some of the (unlikely but theoretically possible) scenarios which could explain how a boat travels from downstream to upstream. But he lacks an argument to do so.

There are other parts of the *Analytic of Principles* which may compliment what I have written elsewhere in this dissertation. I have already spoken briefly about the *Refutation of Idealism* and Kant’s conception possibility and actuality in Chapter Four of this dissertation. However, a fuller account of the ideas I’ve developed in this dissertation

¹² B232.

¹³ B234. A more favorable account is given by Guyer (*Kant and the Claims of Knowledge*, 240), who argues that if there is an objective succession there must be some cause, but the earlier state need not be the cause of the later state (e.g. day and night succeed one another objectively, but one is not the cause of the other).

would require a more thorough analysis of these sections. In particular, it would be useful to examine Kant's distinction between the mathematical principles, which are supposed to be determinative or constitutive of their objects, and the regulative or dynamic principles.¹⁴ Kant says that regulative principles only indicate the relation of one perception to another without actually determining the second perception. So, given a particular perception, we may be able to determine that it is simultaneous or successive with a second perception but "it cannot be said *which* and *how* great this other perception is, but only how it is necessarily combined with the first, as regards its existence, in the *modus* of time."¹⁵ This is somewhat different from Kant's description of a regulative idea in the Dialectic, which is supposed "to indicate the procedure in accordance with which the empirical and determinate use of the understanding in experience can be brought into thoroughgoing agreement with itself."¹⁶ The latter two principles of the Analytic are not, to my knowledge, interpreted in light of the account of regulative principles given in the Dialectic. To do so would extend my argument developed in Chapter Five that casts doubt on Kant's ability to explain how form determines matter, and that seeks to expand the role of regulative ideas in his thought to the determination of empirical objects. It would also involve interpreting the Second Analogy in a manner different from what I proposed above. The goal of the Analogy would not be to establish the principle of causality as determinative of objects, but rather to establish it as a method for discovering potential relations between objects — without the certainty that these relations would obtain. Thus, the irreversibility of certain perceptions would be a strong indicator of a

¹⁴ See A179-A180/B221-223

¹⁵ A179/B222.

¹⁶ A665-666/B693-694.

causal connection between perceptions without entitling us to say that they are causally related.

Another area for future research is to examine Kant's account of substance in the First Analogy. At several points in this dissertation I have argued that Kant understands an object in terms of a unity of diverse properties, which in a more traditional philosophical idiom would be called the relation of substance and accidents. However, in the First Analogy Kant develops a novel understanding of substance as what persists through alterations and what thus provides the substratum for all alterations, which he describes as accidents. What the First Analogy does not make clear, however, is how these accidents relate to the substance since they are distinguished mainly by their *modi* of time and since Kant suggests that a traditional model of "inherence" gives rise to "many interpretations."¹⁷

Similarly, a more extensive account of form and matter would require a thorough analysis of Kant's Amphiboly, which presents form and matter as concepts of reflection. I view this argument as orthogonal to Kant's argument up to that point because it seeks to explain what kind of concepts form and matter are, rather than deploying them for any original explanatory purposes. My goal throughout this dissertation has been to try to examine what the concepts of form and matter are supposed to *explain*. One difficulty with the Amphiboly is that Kant's account of form and matter seems to describe how the terms have traditionally been understood, but doesn't make clear which, if any, of the senses he endorses. This analysis of the Amphiboly would also profit from a comparison

¹⁷ A187/B230.

to Kant's account of concepts of reflection given in the *Critique of Judgment*. But all this belongs to a future research project.

Appendix: Various Uses of Form and Matter in Kant's Writings

Kant did not truly thematize the distinction between form and matter, at least in his published writings, until the *Inaugural Dissertation* in 1770, but that does not mean that it played no role at all before then. On the contrary, we find Kant deploying it in a variety of contexts and for various purposes. It is doubtful that *all* of these uses coalesce around a single one, although it is my contention that *some* of them do and that they do so in a philosophically significant manner. So I want to note briefly from the outset a few different uses of 'form' and 'matter' in Kant's up to and including the *Inaugural Dissertation*, and I'll make some brief remarks about how these usages are or are not carried over into his critical works. Kant's uses of form in his critical works receives a more thorough analysis in Chapters Two to Five of this dissertation. The references to Kant's various uses of these terms below are meant to be illustrative rather than exhaustive.

Substantial Form

The original account of form developed by Aristotle came to be known in the subsequent centuries as substantial form. Many modern thinkers from Descartes onwards discount such an account of form. As I argue in this dissertation, it has no direct bearing on the conception of form and matter that we see deployed in Kant's writings. Almost without exception, Kant does not use the Latinate term *Form* to indicate the shape, essence, or actuality of an object. The exception that proves the rule is in the First Analogy where Kant gives an anecdote about a philosopher who is asked how much smoke weighs. The philosopher responds, in Kant's words, that "If you take away the

weight of the wood that was burnt from the weight of the ashes that are left over, you will have the weight of the smoke. He thus assumed as incontrovertible that even in fire the matter (substance) never disappears but only suffers an alteration of form [*sondern nur die Form derselben eine Abänderung erleide*].”¹

Form as Clarity or Distinctness of a Matter

One common usage of form-matter dichotomy concerns the juxtaposition a particular matter or content (be it a representation, a cognition, a concept, etc.) with certain qualities of that content, particularly its distinctness (*Deutlichkeit*) or clearness (*Klarheit*) of the content. In other words, a single ‘matter’ may differ in its clarity or distinctness and these differences are considered to be merely ‘formal.’ Sometimes Kant included other qualities as well besides clarity and distinctness, as can be seen in the fourth passage below:

Distinctness concerns the formal of cognition.²

The particular logical form is clarity, distinctness.³

The obscure and true cognition is the material for clear and true concepts.⁴

Representations are distinguished either materially or formally. Material difference is the one derived from the difference of the represented object [...]; formally they [sc. representations] are distinguished into obscure and clear, confused and distinct, complete and incomplete, adequate and inadequate.⁵

In this way a single ‘matter’ may be considered differently according to its form, i.e. by being more or less distinct.

¹ A185/B228.

² R1766, 16:107 [ca. 1752-1755]

³ R2834, 16:536 [ca. 1760-1770]

⁴ R2342, 16:324 [ca. 1752-1755].

⁵ R1678, 16:79 [ca. 1752-1755].

A related use of form and matter has to do with the bases of a particular science (*Wissenschaft*). Kant contrasts ‘historical’ and ‘rational’ sciences, in so far as the former is based upon the mere accumulation of data and is *a posteriori* (Kant cites history and geography as examples of this), while the former tries to deduce knowledge from principles and is *a priori*.⁶ Thus two different disciplines may treat the same matter, but with a different form. However, it is important to note that in contrast his critical writings, Kant does not here see the difference between *a priori* and *a posteriori* to be a difference in kind, but rather simply a difference in their degree of distinctness:

Historical cognition is given to me *a posteriori*[;] it contains everything that pertains to rational cognition. It shows how something is, but rational cognition shows how something ought to be (thus it is, e.g., in morals). It only makes distinct what historical cognition indicates. It alters only the *formal*. Without historical cognition reason has no *materialia* to make distinct.⁷

The conception of form as clearness or distinctness (or some other similar term) of a matter becomes less and less prominent later from the mid 1760s and onwards. Prior to this, it is closely tied to a Leibnizian-Wolffian view that intellectual and sensible representations differ only in their clarity and distinctness, and that the business of philosophy is to take obscure (usually sensible) representations and make them clear and distinct through conceptual analysis (cf. 2:276).⁸ But in the *Inaugural Dissertation*, Kant comes to see intellectual representations and sensible representations as different in kind, and not merely in their degree of clarity and distinctness (2:394-395), and the importance

⁶ 24:20.

⁷ 24:49.

⁸ Even in his critical period, though, Kant does still seem to have a similar conception of analysis: “A great part, perhaps the greatest part of the business of our reason consists in analyses of the concepts that we already have of objects. This affords us a multitude of cognitions that, though they are nothing more than illuminations or clarifications [*Aufklärungen* oder *Erläuterungen*] of that which is already thought in our concepts (though still in a confused way [*auf verworrene Art*]), are, at least as far as their form is concerned [*wenigstens der Form nach*], treasured as if they were new insights, though they do not extend the concepts that we have in either matter or content [*der Materie oder dem Inhalt nach*] but only set them apart from each other” (A5-6/B9).

of analysis and making our concepts clear diminishes. Nevertheless, the notion of form as distinctness is undoubtedly preserved in one passage in the first Introduction to the *Critique*: “As regards the form [*die Form*] of our enquiry, certainty and distinctness [*Deutlichkeit*] are two essential requirements” (Axv, trans. modified). In the context of Kant’s critical work, however, this passage and the use of the term ‘form’ in it seems to be a bit of an anomaly,⁹ and so we shall not deal with it further.

Form and Matter of a Syllogism

There is a long history of using hylomorphic terminology in logic, and especially in syllogistic.¹⁰ In the *Auszug aus der Vernunftlehre*, the text that Kant used as the basis for his lectures on logic throughout his career, Meier writes: “The matter of a syllogism (*rationis materia*) consists of its premisses, while its form (*rationis forma*) consists of the deduction of the conclusion from the premisses.”¹¹ Such hylomorphic terminology differed slightly among various authors: sometimes the form of a syllogism is identified with the ‘relation’ (*Verhältnis*) or the ‘connection’ (*Zusammenhang*) between the premisses; sometimes the matter is called the ‘content’ (*Inhalt*) of the premisses rather than the premisses themselves. But we find basically similar language used in Kant’s own

⁹ See the previous footnote for one other example from the *Critique*, and also A44/B61-62 where he mentions this usage in connection to the Leibnizian-Wolffian philosophy.

¹⁰ See Dultith Novaes, “Form and matter in later Latin medieval logic: the cases of suppositio and consequentia,” 339-364; and Marfarlane “What Does it Mean to Say that Logic is Formal?” for discussions of this history and their pertinence to Kant. See also Barnes “Logical Form and Logical Matter,” esp. 39-43, and *infra* Chapter Three §2.

¹¹ Meier, *Auszug aus der Vernunftlehre*, §359. A similar definition can be found in the *Jaesche Logik* (9:121). See also Meier, *Vernunftlehre*, §395; Crusius, *Entwurf der notwendigen Vernunft-Wahrheiten* (Leipzig, 1745; repr. Hildesheim: Georg Olms, 1964.) §252; Baumgarten, *Acroasis Logica*, 2nd ed. (1773), §301.

writings about syllogistic, e.g. in the *False Subtlety*, in some of his *Reflexionen*, and in the later *Jaesche Logik*.¹²

Kant's writings about syllogistic are short and scant, so it's difficult to say whether this usage remained constant or diminished in the critical period. In the *Critique of Pure Reason*, the significance of syllogisms is clearly subordinate to judgments, and he even seems to see syllogisms as a certain kind of judgment.¹³ Still, the forms of syllogism have a role to play in the Transcendental Dialectic. Just as the forms of judgment yield the categories, so too, Kant thinks, the forms of syllogism yield the transcendental ideas:

The form of judgments (transformed into a concept of the synthesis of intuitions) brought forth categories that direct all use of the understanding in experience. In the same way, we can expect that the form of the syllogisms, if applied to the synthetic unity of intuitions under the authority of the categories, will contain the origin of special concepts a priori that we may call pure concepts of reason or transcendental ideas, and they will determine the use of the understanding according to principles in the whole of an entire experience.¹⁴

Thus for each of the three relations of judgment (categorical, hypothetical, disjunctive), there is a corresponding syllogism, and a corresponding set of dialectical ideas (psychological, cosmological, and theological ideas).

*Form and Matter of a Judgment, and Formal and Material Principles*¹⁵

In contrast to discussions of the form and matter of a syllogism, it is more rare both in Kant's pre-critical writings and in the works of other authors around Kant's time to speak of the form of a judgment. In the *Metaphysik Herder* from 1762, there is an

¹² 2:53-54; R3210, 16:713 [ca. 1772-1778]; R3427, 16:829 [ca. 1764-1775]; 9:121.

¹³ A321/B378: "the syllogism is itself a judgment determined a priori in the whole domain of its condition."

¹⁴ A321/B377-378.

¹⁵ In some texts, e.g. the *Inaugural Dissertation*, Kant uses the term "formal principle" or "principle of form" as equivalent to "form." In other texts, as I analyze below, he distinguishes them.

extended reflection on form, matter, and formal and material principles. Kant claims that all our judgments must be based upon certain “indemonstrable fundamental judgments” but notes that the propositions derived from these are “either formal or material.”¹⁶ He goes on to define what these mean (here the stenographical character of Herder’s notes is evident):

form is the manner in which the subject and the predicate should be compared

matter [is] which predicates should be compared with the subjects

formal principle, which contains only the highest rule, in which all predicates should be compared with the subjects

material principle, which contains only the highest rule, which predicates should be compared with the subjects.¹⁷

Kant then notes that there are two formal principles: first, the principle of identity, which is “the form of all affirmative judgments”; secondly, the principle of contradiction, which is “the form of all negative judgments.”¹⁸ That these are the two main principles of judgment was commonplace in Kant’s early writings, although he did not always label them as ‘formal’ principles.¹⁹

What does it mean to say that these principles are the ‘forms’ of judgments? In the *Inquiry* Kant treats them as criteria by which the truth of a judgment can be determined:

The *form* of every *affirmation* consists in something being represented as a characteristic mark of a thing, that is to say, as identical with the characteristic mark of a thing. Thus, every affirmative judgment is true if the predicate is *identical* with the subject. And since the *form* of every negation consists in something being represented as in conflict with a thing, it follows that a negative

¹⁶ *Metaphysik Herder*, 28:8. See also 2:293-296.

¹⁷ *Metaphysik Herder*, 28:8.

¹⁸ *Metaphysik Herder*, 28:8.

¹⁹ See *New Elucidation* (1:389), *False Subtlety* (2:60), *Inquiry* (2:294), R3717 (17:260), R3920 (17:345), R3928 (17:350).

judgment is true if the predicate *contradicts* the subject.²⁰

In other words, judgments have two forms: affirmation and negation. These two forms are governed by the principle of identity and the principle of contradiction respectively, in the sense that these principles are criteria for testing whether a judgment is true or not. If we judge that ‘S is P,’ this means for Kant that we are asserting an identity of ‘S’ and ‘P.’ If it turns out that ‘S’ is not identical to ‘P,’ then our judgment will turn out to be false since it does not accord with the principle of identity.

Material principles are indemonstrable judgments, but which contain a particular content that serves as the basis for other judgments. Kant likens these to geometrical axioms.²¹ Kant credits Crusius for recognizing that these material principles are needed in addition to the formal ones, although Kant is critical of Crusius’ own examples of material principles such as “whatever exists, exists somewhere and somewhere.”²² Instead, Kant gives as an example of a material principle “a body is a compound,” which, when combined with another indemonstrable proposition like “what is compounded is divisible,” can produce the new proposition, “a body is divisible.”²³

In the *Critique of Pure Reason*, Kant tends to speak of the ‘form of understanding’ (*Form des Verstandes*) and the ‘form of thinking’ (*Form des Denkens*) rather than the ‘form(s) of judgment.’ In lieu of the latter, he often instead uses the phrase

²⁰ 2:294.

²¹ 2:294-295.

²² Crusius, *Weg zur Gewissheit und Zuverlässigkeit der menschlichen Erkenntniss* (Leipzig, 1745; repr. Hildesheim: Georg Olms, 1965) §259. For Kant’s criticisms, see *The Only Possible Argument* (2:76), *Inquiry* (2:295), *Inaugural Dissertation* (2:413-414).

²³ 2:294.

‘functions of judgment,’²⁴ although he does refer to the categories as ‘forms of thought’ (*Gedankenformen*).²⁵ I discuss the relation between form and function in Chapter Three.

Formal and Material Elements of Possibility

Kant distinguishes the formal and material elements of possibility in *The Only Possible Argument in Support of a Demonstration of the Existence of God* (1763). He notes that “the impossible always contains the combination of something posited with something which also cancels it. I call this repugnancy [*diese Repugnanz*] the formal element [*das Formale*] in inconceivability or impossibility. The material element [*das Materiale*] which is given here as standing in such conflict is itself something and can be thought.”²⁶ To illustrate this, Kant gives the example of a quadrangular triangle as something “absolutely impossible”²⁷ – undoubtedly because a quadrangle and a triangle have incompatible predicates, ‘four-sided’ and ‘three-sided.’ But Kant points out that “a triangle is something, and so is a quadrangle. The impossibility is based simply on the logical relations which exist between one thinkable thing and another.”²⁸ In other words, what makes a proposition or an object impossible is that it combines two terms (or matters) that are incompatible with one another, but otherwise intelligible in their own right.

This account of the formal and material elements of possibility is clearly parasitic upon the formal and material elements of a judgment, since Kant’s presumption is that

²⁴ E.g. A79/B105.

²⁵ E.g. twice at B150-151.

²⁶ 2:77.

²⁷ *ibid.*

²⁸ *ibid.*

what is contradictory is impossible (and conversely, what is not contradictory is possible). In order to explain why a quadrangular triangle is impossible, for instance, one must be able to formulate – and recognize the contradiction in – a judgment like: ‘A three-sided figure has four-sides.’ In this way, the logical notions of contradiction and noncontradiction take on an ontological significance by being connected to the notions of impossibility and possibility.

Ontological Account of Form and Matter

Kant also uses the term matter to refer to the basic ‘stuff’ of the universe, and takes ‘form’ to be the order (usually spatio-temporal order) of that stuff. This kind of usage is found in the *Universal Natural History* and the *Only Possible Argument*,²⁹ but the most robust account is in the *Inaugural Dissertation*. There Kant defines matter as follows: “*MATTER* (in the transcendental sense), that is, the *parts* [of a world], which are here taken to be *substances*.”³⁰ Kant clearly understands matter *qua* substance in a fairly traditional sense. He characterizes it as the bearer of accidents or modifications.³¹ And by characterizing matter as the ‘parts’ of the world, he seemingly distinguishes them from the ‘substantial compounds’ discussed earlier in the essay and identifies them with the ‘simple beings’ akin to Wolffian-Leibnizian monads.³²

Kant goes on to define form as follows: “*FORM*, which consists in the *coordination*, not in the subordination of substances.”³³ Kant later makes clear that things

²⁹ 1:310; 2:124.

³⁰ 2:389.

³¹ *ibid.*

³² See 2:387-388.

³³ 2:390.

can only be coordinated if they are in a relation of reciprocal determination, such that “the connection, which constitutes the *essential* form of a world, is seen as the principle of possible influences of the substances which constitute the world.”³⁴

There are two such forms or principles of the phenomenal world, space and time. These, however, occupy an ambiguous place in the text. On the one hand, Kant treats them as the principles for ordering *objects*, but, on the other hand, he also treats them as the principles for ordering our *sensations*. There is good reason not to conflate the two types of coordination, as I explain below.

Epistemological Account of Form and Matter

In the *Inaugural Dissertation* Kant also uses form and matter in an epistemological sense, i.e. not as the form and matter of *things* or *substances* but rather of *representations*: “In a representation of sense there is, first of all, something which you might call the *matter*, namely, the sensation, and there is also something which may be called the *form*, the *aspect* namely of sensible things which arises according as the various things which affect the senses are coordinated by a certain natural law of the mind.”³⁵ Here ‘matter’ is not the substances existing in the world, but rather the *sensations*. Although, like the ontological account, Kant here says that form is a ‘coordination,’ this similarity may be superficial. For a coordination of substances (i.e. their mutual interaction and reciprocal determination) is undoubtedly not the same thing as a coordination of sensations: my sensation of the taste of my breakfast this morning does not interact with or reciprocally determine in any straightforward way my sensation

³⁴ *ibid.*

³⁵ 2:392.

of the taste of my dinner in the evening. However, Kant seems unaware of the distinction between the two kinds of coordination in the *Inaugural Dissertation*, and doesn't provide grounds for unifying them until the first *Critique*.

Concluding Remarks on the Various Uses of Form

Kant does not fully reconcile all of these definitions of form. His use of what I've called *form as distinctness or clarity of a matter*, for instance, disappears almost entirely in his critical works and plays no significant philosophical role in them. Many of these uses of the form-matter dichotomy are rooted in tradition. Kant does not even thematize the terms form and matter in his published writings until the *Inaugural Dissertation*. But even in the pre-critical writings, Kant finds new applications of the dichotomy. He uses the distinction between form and matter in the *Only Possible Argument* to develop a novel proof of the existence of God (although he'll later see this proof as inadequate). In the *Inaugural Dissertation*, he begins to reflect explicitly on the form and matter of a representation, and develops the novel doctrine that space and time are forms of intuition. This epistemological account is of particular interest. In the first place, it has little to no precedent in Kant's earlier works or in the works of other authors. Secondly, as I show throughout this dissertation, in Kant's critical writings, the epistemological account will come to swallow many, if not all, of the other conceptions, notably the ontological account of form and matter, and the form and matter of a judgment.

Bibliography

Kant's Works

Kant, Immanuel. *Gesammelte Schriften*. 29 vols. Edited by the Prussian Academy.

Berlin: Walter de Gruyter, 1902-.

-----. *Anthropology, History, and Education*. Edited by Günter Zöllner and Robert B.

Louden. Translated by Mary Gregor, Paul Guyer, Robert B. Louden, Holly

Wilson, Allen Wood, Günter Zöllner, and Arnulf Zweig. Cambridge: Cambridge

University Press, 2007.

-----. *Correspondence*. Translated and Edited by Arnulf Zweig. Cambridge: Cambridge

University Press, 1999.

-----. *Critique of Pure Reason*. Translated and edited by Paul Guyer and Allen Wood.

Cambridge, Cambridge University Press, 1998.

-----. *Lectures on Logic*. Edited and translated by J. Michael Young. Cambridge:

Cambridge University Press, 1992.

-----. *Lectures on Metaphysics*. Edited and translated by Karl Ameriks and Steve

Naragon. Cambridge, Cambridge University Press, 1997.

-----. *Notes and Fragments*. Edited by Paul Guyer. Translated by Curtis Bowman, Paul

Guyer, and Frederick Rauscher. Cambridge: Cambridge University Press, 2005.

-----. *Theoretical Philosophy after 1781*. Edited by Henry Allison and Peter Heath.

Translated by Gary Hatfield, Michael Friedman, Henry Allison, and Peter Heath.

Cambridge: Cambridge University Press, 2002.

-----, *Theoretical Philosophy, 1755-1770*. Translated and Edited by David Walford in Collaboration with Ralf Meerbote. Cambridge: Cambridge University Press, 1992.

Other Works Cited

Abela, Paul. *Kant's Empirical Realism*. Oxford: Clarendon Press, 2005.

Alexander of Aphrodisias. *On Aristotle's Prior Analytics 1.1-7*. Translated by Jonathan Barnes, Susanne Bozien, Kevin Flannery S.J., Katerina Ierodiakonou. London and New York: Bloomsbury, 1991.

Allais, Lucy. *Manifest Reality: Kant's Idealism and his Realism*. Oxford: Oxford University Press, 2017.

Allison, Henry. "Kant's Critique of Berkeley." *Journal of the History of Philosophy* 11, no. 1 (Jan. 1973): 46-47.

-----, *Kant's Transcendental Deduction: An Analytical-Historical Commentary*. Oxford: Oxford University Press, 2015.

-----, *Kant's Transcendental Idealism*. 2nd ed. New Haven: Yale University Press, 2004.

Amerike, Karl. "Idealism from Kant to Berkeley" in *Kant and the Historical Turn*, 67-88. Oxford: Oxford University Press, 2006.

-----, "Kantian Idealism Today." *History of Philosophy Quarterly* 9, no. 3: 329-342.

-----, "Kant's Transcendental Deduction as a Regressive Argument." *Kant Studien* 69, nos. 1-4 (1978): 273-287.

- , "Kant, Fichte, and Apperception." *Kant and the Fate of Autonomy: Problems in the Appropriation of Critical Philosophy*, 234-264. Cambridge: Cambridge University Press, 2000.
- , "Kant, Fichte, and Short Arguments to Idealism," *Archiv für Geschichte der Philosophie* 72:1 (1990): 63-85.
- , "The Critique of Metaphysics: The Structure and Fate of Kant's Dialectic." In *Kant and the Historical Turn: Philosophy as Critical Interpretation*, 134-160. Oxford: Clarendon Press, 2006.
- Aristotle. *De Anima*. Edited by W.D. Ross. Oxford: Oxford University Press, 1979.
- , *The Complete Works of Aristotle*. 2 Volumes. Edited by Jonathan Barnes. Princeton, Princeton University Press, 1984.
- Arnauld, Antoine and Pierre Nicole. *Logic or the Art of Thinking*. Edited and translated by Jill Vance Buroker. Cambridge: Cambridge University Press, 1996.
- , *Logique ou l'art de penser*. Edited by Charles Jourdain. Gallimard, 1992.
- Ayers, Michael. *Locke: Epistemology and Ontology*. 2 vols. London: Routledge, 1991-1993.
- Baldner, Kent. 1990. "Is Transcendental Idealism Coherent?" *Synthese* 85: 1-23.
- Barnes, Jonathan. "Logical Form and Logical Matter." In *Logica, Mente e Persona*, 7-119. Edited by Antonina Alberti. Firenze: Leo S. Olschki Editore, 1990.
- Bates, Jennifer Anne. *Hegel's Theory of Imagination*. Albany: SUNY Press, 2004.
- Baumgarten, Alexander Gottlieb. *Acroasis Logica*. 2nd ed. 1773.

https://archive.org/details/bub_gb_OKwAAAAAcAAJ

- Beck, Lewis White. *Early German Philosophy*. Cambridge, MA: Harvard University Press, 1969.
- , *Essays on Kant and Hume*. New Haven and London: Yale University Press, 1978.
- Beiser, Frederick. *German Idealism: The Struggle against Subjectivism: 1781-1801*. Cambridge, MA: Harvard University Press, 2002.
- , *The Fate of Reason: German Philosophy from to Fichte*. Cambridge, MA: Harvard University Press, 1987.
- , *The Genesis of Neo-Kantianism, 1796-1880*. Oxford: Oxford University Press, 2014.
- Bennett, Jonathan. *Kant's Analytic*. Cambridge: Cambridge University Press, 1966.
- Berkeley, George. *The Principles of Human Knowledge*. Edited by Keith Winkler. Indianapolis: Hackett, 1982.
- Bird, Graham. *Kant's Theory of Knowledge*. London: Routledge & Kagan Paul, 1962.
- Buroker, Jill Vance. *Space and Incongruence: The Origin of Kant's Idealism*. Dordrecht: D. Reidel, 1981.
- , "The Role of Incongruent Counterparts in Kant's Transcendental Idealism." In *The Philosophy of Right and Left: Incongruent Counterparts and the Nature of Space*. Edited by James Van Cleve and Robert E. Frederick, 315-339. Dordrecht & Boston & London: Kluwer, 1991.
- Cassirer, Ernst. *Das Erkenntnisproblem in der Philosophie und Wissenschaft der neueren Zeit*. Vol. 2. Berlin: Verlag Bruno Cassirer, 1922.

- Cohen, Hermann. *Die systematische Begriffe in Kants vorkritischen Schriften nach ihrem Verhältniss zum kritischen Idealismus*. Berlin: Ferd Dümmlers Verlagsbuchhandlung, 1873.
- , *Kommentar zu Immanuel Kants Kritik der Reinen Vernunft*. Leipzig: Verlag Der Dürr'schen Buchhandlung, 1907.
- Collins, Arthur. *Possible Experience: Understanding Kant's Critique of Pure Reason*. Berkeley and Los Angeles: University of California Press, 1999.
- Crusius, Christian August. *Entwurf der notwendigen Vernunft-Wahrheiten*. Leipzig, 1745; repr. Hildesheim: Georg Olms, 1964.
- , *Weg zur Gewissheit und Zuverlässigkeit der menschlichen Erkenntniss*. Leipzig, 1745; repr. Hildesheim: Georg Olms, 1965.
- Deleuze, Gilles. *Kant's Critical Philosophy*. Translated by Hugh Tomlinson and Barbara Hammerjam. London: Athlone Press, 1984.
- Descartes, René, *Meditations on First Philosophy*. Translated by Donald A. Cress. 3rd ed. Indianapolis: Hackett, 1993.
- Dufour, Éric. "Remarques sur la note du paragraphe 26 de l'Analytique transcendantale. Les interprétations de Cohen et de Heidegger." *Kant Studien* 94 (2003): 69-79.
- de Vleeschauwer, H.J. *La déduction transcendantale dans l'œuvre de Kant*. 3 vols. Antwerp: De Sikkel, 1934-37; repr., New York and London: Garland Publishing, 1976.
- Dultith Novaes, Catarina. "Form and matter in later Latin medieval logic: the cases of *suppositio* and *consequentia*." *Journal of the History of Philosophy* 50, no. 3 (2012): 339-364.

- , "Logical Hylomorphism and the Demarcation of Logical Constants" *Synthese* 185, no. 3 (April 2012): 398-405.
- Emmerton, Norma. *The Scientific Reinterpretation of Form*. Cornell: Cornell University Press, 1984.
- Euler, Leonhard. *Gedanken von den Elementen der Körper*. Berlin, 1746.
- Falkenstein, Lorne. *Kant's Intuitionism: A Commentary on the Transcendental Aesthetic*. Toronto: University of Toronto Press, 1995.
- Fichte, J.G. *The Science of Knowledge*. Edited and translated by Peter Heath and John Lachs. Cambridge: Cambridge University Press, 1982.
- Föster, Eckart. "Kant's Refutation of Idealism." In *Philosophy, Its History and Historiography*, 287-303. Edited by A.J. Holland. Dordrecht: D. Reidel, 1985.
- , *The Twenty-Five Years of Philosophy: A Systematic Reconstruction*. Translated by Brady Bowman. Cambridge, MA: Harvard University Press, 2012.
- Friedman, Michael. "Kant's Theory of Geometry" *The Philosophical Review* 94, no. 4 (Oct. 1985): 455-506.
- , *Kant and the Exact Sciences*. Cambridge, MA: Harvard University Press, 1992.
- Garber, Daniel. "Leibniz on Form and Matter." *Early Science and Medicine* 2, no. 3 (1997): 326-352.
- George, Rolf "Kant's Sensationism." *Synthese* 47 (1981): 229-255.
- Ginsborg, Hannah. "Was Kant a conceptualist?" *Philosophical Studies* 137 (2008): 65-77.
- Gloy, Karen. "Die Kantische Differenz von Begriff und Anschauung und ihre Begründung." *Kant-Studien* 75, no. 1 (Jan., 1984): 1-37.

- Graubner, Hans. *Form und Wesen: Ein Beitrag zur Deutung des Formbegriffs in Kants*
 “Kritik der reinen Vernunft.” Bonn: Bouvier, 1972.
- Grünbaum, Adolf. *Philosophical Problems of Space and Time*. Dordrecht: D. Reidel,
 1973.
- Guyer, Paul. *Kant and the Claims of Knowledge*. Cambridge: Cambridge University
 Press, 1987.
- Haag, Johannes, “Funktion.” In *Kant-Lexicon*. Edited by Willaschek, Marcus, and Jürgen
 Stolzenberg, Georg Mohr, Stefano Bacin, eds. Kant-Lexicon. 3 vols. Berlin:
 Walter de Gruyter, 2015.
- Hanna, Robert. “Kant and Non-Conceptual Content.” *European Journal of Philosophy*
 13, no. 2 (2005): 247-290.
- Harnack, Adolf. *Geschichte der Königlichen Preussischen Akademie der*
Wissenschaften zu Berlin. Vol. 2. Berlin: Reichsdruckerei, 1900.
- Hatfield, Gary. *The Natural and the Normative: Theories of Spatial Perception from Kant*
to Helmholtz. Cambridge, MA: MIT Press, 1990.
- Heidegger, Martin. *Die Grundprobleme der Phänomenologie*. Gesamtausgabe Bd. 24.
 Frankfurt am Main: Vittorio Klosterman, 1975.
- , *Kant and the Problem of Metaphysics*. Translated by Richard Taft. 5th ed.
 Bloomington and Indianapolis: Indiana University Press, 1990.
- , *The Basic Problems of Phenomenology*. Translated by Albert Hofstadter.
 Bloomington: Indianapolis University Press, 1988.
- Hegel, G.W.F. *Faith and Knowledge*. Translated by Walter Cerf and H.S. Harris. Albany:
 SUNY Press, 1977.

- Henrich, Dieter. "Fichtes ursprüngliche Einsicht." In *Subjektivität und Metaphysik: Festschrift für Wolfgang Cramer*, 188-232. Edited by Dieter Henrich and Hans Wagner. Frankfurt: Klostermann, 1966.
- , "Identity and Objectivity." in *The Unity of Reason: Essays on Kant's Philosophy*. Edited by Richard L. Velkley. Translated by Jeffrey Edwards, Louis Hunt, Manfred Kuehn, and Guenter Zoeller. Cambridge, MA: Harvard University Press, 1994.
- , "Kant's Notion of a Deduction and the Methodological Background of the First Critique." In *Kant's Transcendental Deductions: The Three "Critiques" and the "Opus postumum"* 29–46. Edited by Eckart Förster. Stanford, CA: Stanford University Press (1989).
- , "The Proof Structure of Kant's Transcendental Deduction." *Review of Metaphysics* 22 (1969): 640-659.
- Herbart, J.F. *Lehrbuch zur Einleitung in die Philosophie*. In *Sämmtliche Werke*. Vol. 4. Edited by Karl Kehrbach. Langensalza: Hermann Beyer und Söhne, 1891.
https://archive.org/details/johannfriedrichh04unse_0
- Herbart, J.F. *Psychologie als Wissenschaft*. Königsberg, 1825.
https://archive.org/details/bub_gb_EcEAAAAAcAAJ
- Hoppe, Hans Georg. *Synthesis bei Kant*. Berlin: de Gruyter, 1983.
- Hume, David. *A Treatise of Human Nature*. Vol. 1. Edited by David Fate Norton and Mary J. Norton. Oxford: Clarendon Press, 2011.
- , *An Inquiry Concerning Human Understanding*. Indianapolis: Hackett 1993.

- Humphrey, Ted. "The Historical and Conceptual Relations between Kant's Metaphysics of Space and Philosophy of Geometry." *Journal of the History of Philosophy* 11, no. 4 (Oct. 1973): 483-512.
- Kemp Smith, Norman. *A Commentary to Kant's 'Critique of Pure Reason.'* London: MacMillan & Co, 1918.
- Kitcher, Patricia. *Kant's Transcendental Psychology.* Oxford: Oxford University Press, 1990.
- Kneale, William and Martha Kneale. *The Development of Logic.* Oxford: Clarendon Press, 1962.
- Kosman, Aryeh. "Divine Being and Divine Thinking." In *Aristotle: Critical Assessments I: Logic and Metaphysics*, 339-355. Edited by Lloyd P. Gerson. London and New York: Routledge, 1999.
- , "What does the Maker Mind Make?" In *Essays on Aristotle's De Anima*, 343-358. Edited by Martha Nussbaum and Amelia Oksenberg Rorty. Oxford: Oxford University Press, 1992.
- Kuehn, Manfred. *Kant: A Biography.* Cambridge: Cambridge University Press, 2001.
- Lampert, J.H. 1764. *Neues Organon.* 2 Vols.
- Lampert, Jay. *Simultaneity and Delay: A Dialectical Theory of Staggered Time.* London and New York: Continuum, 2012.
- Land, Thomas. "No Other Use than in Judgment? Kant on Concepts and Sensible Synthesis." *Journal of the History of Philosophy* 53, no. 3 (July 2015): 461-484.
- Langton, Rae. *Kantian Humility.* Oxford: Clarendon, 1998.

- Leibniz, G.W. 1875-90. *Die Philosophischen Schriften*. 7 vols. Edited by C.J. Gerhardt.
Berlin: Weidmannsche Buchhandlung.
- , *Philosophical Essays*. Edited and Translated by Roger Ariew and Daniel Garber.
Indianapolis: Hackett, 1989.
- , *Primae Veritates in Opusculis et fragmentis inédits de Leibniz*. Edited by Louis
Couturat. (Paris: F. Alcan, 1903).
- Lewis, C.I. *Mind and the World Order*. New York: Charles Scribner's Sons, 1929.
- Locke, John. *An Essay Concerning Human Understanding*. Edited by Pieter H. Nidditch.
Oxford: Clarendon Press, 1975.
- Longuenesse, Béatrice. *Kant and the Capacity to Judge: Sensibility and Discursivity in
the Transcendental Analytic of the Critique of Pure Reason*. Princeton, Princeton
University Press, 1998.
- , "Hegel and Kant on Judgment." In *Hegel's Critique of Metaphysics*, 192-217.
Translated by Nicole J. Simek. Cambridge: Cambridge University Press, 2007.
- , "The Divisions of the Transcendental Logic and the Leading Thread." In *Immanuel
Kant: Kritik der Reinen Vernunft*. Edited by Georg Mohr and Marcus Willaschek.
Berlin: Akademie Verlag, 1998.
- MacFarlane, John. "What Does it Mean to Say that Logic is Formal?" Phd. diss.
University of Pittsburgh, 2000.
- Malebranche, Nicholas. *The Search After Truth*. Translated and edited by Thomas M.
Lennon and Paul J. Olscamp. Cambridge: Cambridge University Press, 1997.
- McClellan, James E. and Dorn, Harold. *Science and Technology in World History*.
Baltimore: Johns Hopkins University Press, 2015.

Meier, Georg Friedrich. *Auszug aus der Vernunftlehre*. Halle, 1752.

https://archive.org/details/bub_gb_CkUMAAAYAAJ

Melnick, Arthur. *Kant's Analogies of Experience*. Chicago and London: University of Chicago Press, 1973.

Natorp, Paul. "Kant and the Marburg School." In *The Neo-Kantian Reader*. Edited by Sebastian Luft. New York: Routledge, 2015.

Newton, Isaac. *The Principia: Mathematical Principles of Natural Philosophy*.

Translated by I. Bernard Cohen and Anne Whitman. Berkeley: University of California Press, 1999.

Nuchelmans, Gabriel. *Judgment and Proposition from Descartes to Kant*. Amsterdam: North Holland Publishing Company, 1983.

----- . *Late-Scholastic and Humanist Theories of the Proposition*. Amsterdam: North Holland Publishing Company, 1980.

Onof, Christian and Dennis Schulting. "Space as Form of Intuition and as Formal Intuition: On the Note to B160 in Kant's *Critique of Pure Reason*." *Philosophical Review* 124, no. 1 (2015): 1-58.

Oswald, Georg, "Kant, Schelling, and Hegel on How to Conceive Matter from a Metaphysical Point of View." *Idealistic Studies* 52, no. 3 (Fall 2022): 245-268.

Paton, H.J. *Kant's Metaphysics of Experience*. 2 vols. London: George Allen & Unwin, 1936.

Pereboom, Derk. "Kant's Metaphysical and Transcendental Deductions." In *A Companion to Kant*. Edited by Gram Bird. Malden: Blackwell, 2006.

- Pippin, Robert. *Kant's Theory of Form: An Essay on the Critique of Pure Reason*. New Haven: Yale University Press, 1982.
- , "Reason's Form" in *The Impact of Idealism: The Legacy of Post-Kantian German Thought*. Vol. 1., edited by Karl Ameriks, 373-394. Cambridge: Cambridge University Press, 2013.
- Polansky, Ronald. *Aristotle's De Anima: A Critical Commentary*. Cambridge: Cambridge University Press, 2007.
- Pollok, Constantin. *Kant's Theory of Normativity: Exploring the Space of Reason*. Cambridge: Cambridge University Press, 2017.
- Posy, Carl, ed. *Kant's Philosophy of Mathematics: Modern Essays*. Dordrecht: Kluwer, 1992.
- Prauss, Gerold. *Kant und das Problem der Dinge an sich*. Bonn: Bouvier Verlag, 1977.
- Reichenbach, Hans. *The Philosophy of Space and Time*. Translated by Maria Reichenbach and John Freund. New York: Dover, 1958.
- Reinhold, Karl Leonhard. *Essay on a New Theory of the Human Capacity for Representation*. Translated by Tim Mehigan and Barry Empson. Berlin: De Gruyter, 2011.
- Rockmore, Tom. *Kant and Idealism*. New Haven: Yale University Press, 2007.
- Russell, Bertrand. *Principia Mathematica*. New York: W.W. Norton & Co., 1964.
- Sassen, Brigitte, "Kant's Early Critics and the Question of Empirical Guidedness." In *Kant Und Die Berliner Aufklärung: Akten des IX. Internationalen Kant-Kongresses*, 663-669. Edited by Volker Gerhardt, Rolf-Peter Horstmann, and Ralph Schumacher. Berlin: de Gruyter, 2001.

- , ed. and trans. *Kant's Early Critics: The Empiricist Critique of Theoretical Philosophy*. Cambridge: Cambridge University Press, 2000.
- Schulthess, Peter. *Relation und Funktion: Eine systematische und entwicklungsgeschichtliche Untersuchung zur theoretischen Philosophie Kants*. Berlin and New York: Walter de Gruyter, 1981.
- Schulting, Dennis. *Kant's Radical Subjectivism*. Cham: Palgrave MacMillan, 2017.
- , "Kant, Non-Conceptual Content and the 'Second Step' of the B-Deduction." *Kant Studies Online* (Jan. 2012): 51-92.
- Sellars, Wilfrid. *Empiricism and the Philosophy of Mind*. Cambridge, MA: Harvard University Press, 1997.
- , "The Role of Imagination in Kant's Theory of Experience," in *Categories: A Colloquium*, 231-245. Edited by Henry W. Johnstone Jr. (State College: Pennsylvania State University, 1978)
- , *Science and Metaphysics: Variations on Kantian Themes*. Atascadero: Ridgeview, 1992.
- Sgarbi, Marco. *Kant and Aristotle: Epistemology, Logic, and Method*. Albany: SUNY Press, 2015.
- , "The Historical Genesis of the Kantian Concept of « Transcendental »." *Archiv für Begriffsgeschichte* 53 (2001): 97-117.
- Schönfeld, Martin. *The Philosophy of the Young Kant: The Precritical Project*. Oxford: Oxford University Press (2000).

- Stang, Nicholas F. "Kant's Transcendental Idealism." *Stanford Encyclopedia of Philosophy*. First published March 4, 2016.
<https://plato.stanford.edu/entries/kant-transcendental-idealism/>
- Stroud, Barry. "Transcendental Arguments." *Journal of Philosophy* 65, no. 9 (1968): 241-256.
- Strawson, Peter. *The Bounds of Sense*. Routledge Classics Edition. London and New York: Routledge, 2019.
- Tonelli, Giorgio. "Die Umwälzung von 1769 bei Kant." *Kant-Studien* 54, no. 1-4 (1963): 369-375.
- Turbayne, Colin. "Kant's Refutation of Dogmatic Idealism." *The Philosophical Quarterly* 5, no. 20 (Jul., 1955): 225-244.
- Uehling, Theodore Jr. *The Notion of Form in Kant's Critique of Aesthetic Judgment*. The Hague: Mouton, 1971.
- Vaihinger, Hans. *Kommentar zu Kants Kritik der Reinen Vernunft*. 2nd ed. 2 vols. Stuttgart, Berlin, Leipzig: Union Deutsche Verlagsgesellschaft, 1922.
- Van Cleve, James. *Problems from Kant*. New York and Oxford: Oxford University Press, 1999.
- von Wright, Georg Henrik. "Form and Content in Logic." In *Logical Studies*. London: Routledge, 1957), 1-21.
- Walford, David. 1991. "The Aims and Method of Kant's 1768 *Gegenden im Raume* Essay in Light of Euler's 1748 *Réflexions sur L'Espace*." *British Journal for the History of Philosophy* 7, no. 2 (1999): 305-332

- Warren, Daniel. "Kant on the Apriority of Space." *The Philosophical Review* 107, no. 2 (Apr. 1998): 179-224.
- Waxman, Wayne. *Kant and the Empiricists: Understanding Understanding*. Oxford: Oxford University Press, 2005.
- Westphal, Kenneth. *Kant's Transcendental Proof of Realism*. Cambridge: Cambridge University Press, 2004.
- Whiteley, C.H. "The Idea of Logical Form." *Mind* 60, no. 240 (Oct. 1951): 539-541.
- Willaschek, Marcus, and Jürgen Stolzenberg, Georg Mohr, Stefano Bacin, eds. *Kant-Lexicon*. 3 vols. Berlin: Walter de Gruyter, 2015.
- Wilson, Margaret D. "The 'Phenomenalisms' of Berkeley and Kant. In *Ideas and Mechanism: Essays on Early Modern Philosophy*. Princeton: Princeton University Press, 1999.
- Wolff, Michael. *Die Vollständigkeit der kantischen Urteilstafel*. Frankfurt am Main: Klostermann, 1995.
- Wolff, Robert Paul. *Kant's Theory of Mental Activity*. Cambridge, MA: Harvard University Press, 1963.
- Zerbudis, Ezequiel. "Incongruent Counterparts and the Origin of Kant's Distinction between Sensibility and Understanding." *Archiv für Geschichte der Philosophie* 94 (2012): 326-352.