UNIVERSITY OF CALIFORNIA

Santa Barbara

The Cognitive Significance of Kant's Third *Critique*

A Dissertation submitted in partial satisfaction of the

Requirements for the degree of Doctor of Philosophy

in Philosophy

by

Michael Joseph Fletcher

Committee in charge:

Professor Anthony Brueckner, Chair

Professor Donald Crawford

Professor Burleigh Wilkins

September 2011

The dissertation of Michael Joseph Fletcher is approved.

Donald Crawford

Burleigh Wilkins

Anthony Brueckner, Committee Chair

December 2010

The Cognitive Significance of Kant's Third *Critique*

by

Michael Joseph Fletcher

To my mother, Cherie Lee Burkett

From 1755 on, there are two central questions in Kant's metaphysics. First, how can things (bodies, substances) form one world, not solely in the representations of thinking monads, but really and materially, that is, as a world constituted by universal physical interaction? Second, on what principles does our knowledge of such a world rest.

—Burkhard Tuschling

ACKNOWLEDGEMENTS

Research on this dissertation spanned a period of four years (2006-2010), but the actual writing of it was completed in a shorter period of about 13 months (August 2009-October 2010). I submitted the completed dissertation to the members of my committee on my birthday, October 31st—an event that naturally had considerable symbolic significance for me as a dissertation writer who had made the home stretch:

IS •QVI• FVIT• NON• IAM• EST• IS• QVI• FVTVRVS• ERAT• EST

I would like to take this opportunity to thank the members of my dissertation committee—Anthony Brueckner, Donald Crawford, and Burleigh Wilkins. I am grateful for their continued willingness to sit on my committee during a long period of near-zero contact with the philosophy department at UCSB, one that was interrupted only by brief and occasional assurances that I was making actual progress on the dissertation.

I would especially like to thank Donald Crawford for the generous amounts of time given me over the course of four years in email correspondence, for reading some long and tortured drafts of (what I now refer to as) my proto-dissertations, and for sending me encouraging emails of other Kant scholars whose readings of Kant shared certain features as the one that I, with some uncertainty, was attempting to articulate in this dissertation. On several helpful occasions, Don would explicitly express his confidence in me, my dissertation project, as well as my powers of independent research. When Don did provide guidence, it was done in a way that did

not disturb the sense of complete intellectual freedom to pursue and develop my own leads. He never "micro-managed" my project. Even years into his retirement, Don continued to sit on my committee as functioning (if not official) chair, long after any official departmental obligation toward me had ceased.

Researching and writing a dissertation requires a great deal of time and mine would not have been possible were it not for the assistance of a number of generous people. It gives me great pleasure to express my gratitude toward long time friend and philosophical comrade, Alexander Makarczyk, not only for his financial support but also for his enthusiasm and interest in my project, which helped motivate me during the many periods of dissertation opaqueness. Second, I would like to thank the generosity of Mr. Lowell Jepsen and Dr. Brenda Duffy-Jepsen, who, in spite of months of radio silence, would gladly provide badly needed financial support. I am grateful to Lowell and Brenda's interest in and understanding of the magnitude of what I was attempting to accomplish and their belief in my ability to succeed. I am grateful especially to Lowell (and the late Clarice) Jepsen for the generous support given me during my undergraduate career at UCLA—years which I look on as pre-doctoral preparation. I maintain considerable respect for these people.

Also, I would like to thank Dr. David Diamond for his continued mentorship, personal insight, and unflagging encouragement during the very difficult period in which I was writing and researching my dissertation. I am grateful for Dr. Diamond's willingness to meet with me while embroiled in writing the "Diss." Even

when many months would lapse in between periods of contact, Dr. Diamond's support was always made available in spite of a busy teaching schedule.

I would also like to thank my friend and colleague, Dr. John-Michael Kuczynski, who offered me valuable dissertation coaching throughout the period I was writing the dissertation. In an extended email correspondence (which continues into the present), John-Michael not only provided me (in propria persona) with an excellent model of a really good, tough-minded, analytic philosopher—a real *pro*—but also modeled the high self-belief and intellectual self-efficacy that is required to succeed in completing a dissertation. Though himself very busy with his own on-going philosophical research as well as teaching a full load at VCU, John-Michael read drafts of my dissertation and offered very useful insights about how to improve my philosophical writing. He judiciously censured my obscurities and soberly praised my clarities. John-Michael's influence on my dissertation is seen not so much in its content (which we discussed very little) but in its presentational merit (such as it is) which is the result of striving for analytic rigor in my thinking and writing.

I would also like to express my gratitude to my mother for her continued support during the long period in which I was researching my dissertation. Without her generous and cheerful assistance—and a good many deliciously fortifying chicken dinners—the writing of my dissertation would not have been practically feasible. It is to her that I dedicate this doctoral dissertation.

Finally, I wish to express my gratitude to Albert Bandura for his pioneering contribution to sociocognitive theory, particularly its self-efficacy component.

VITA

EDUCATION

Bachelor of Arts in Philosophy, University of California, Los Angeles, 1992
Master of Arts in Philosophy, California State University, Long Beach, 1999
Candidate for the Doctorate in Philosophy (C.Phil.), University of California, Santa Barbara, 2002
Doctorate in Philosophy, University of California, Santa Barbara, September 2011 (expected)

PROFESSIONAL EMPLOYMENT

1999-2005: Teaching Assistant, Philosophy Department, University of California, Santa Barbara
Summer 2005: Instructor, Merced College, CA

AWARDS

Paul Wienpahl Award for Excellence in Teaching, Philosophy Department, UCSB Spring, 2005.

Outstanding Educator Award, Office of Residential Life, UCSB, Spring 2004.

Whittington Prize for Scholarly Excellence, The Department of Philosophy, California State University, Long Beach, 1998.

First Prize Award at Santa Clara University Undergraduate Philosophy Conference, 1992

Departmental Honors, Philosophy Department, UCLA, 1992

Latin Honors, UCLA, 1992

ABSTRACT

The Cognitive Significance of Kant's Third *Critique*

By

Michael Joseph Fletcher

The aim is to motivate Kant's third *Critique* (*Critique of the Power of Judgment*) in terms of the theoretical objectives of the *Critique of Pure Reason*. To that end, I construct an interpretative framework in which the third *Critique's* major philosophical doctrines and innovations can be seen to have a cognitive significance. Specifically, the aim is to show that the third *Critique's* interest in natural teleology, objective purposiveness, and physicoteleology is linked to the first *Critique's* interest in cognitive systematicity. However, while other cognition-oriented approaches to the third *Critique* draw mainly from the first *Critique's* Transcendental Analytic, my interpretative framework draws largely from the Transcendental Dialectic, specifically its discussions of the "ideas of pure reason."

The investigation is guided by two preliminary issues:

(1) Do the ideas of pure reason (IPRs) play some important role within our representational systems? That is, do IPRs serve some cognitive function

in Kant's Representationalist Theory of Mind? If so, what representational function do IPRs perform?

(2) If the three types of IPR—self, cosmos, God—can be assigned separate and nonredundant cognitive functions, do these functions operate independently of the other, or is there some higher-order representational objective that links their operation?

Under my analysis, IPRs can be assigned differential representational functions under a specification of theoretical reason's highest-order cognitive aim of representing the material universe as one all-inclusive super-object. The representation of the material universe as a single super-object is functionally equivalent to the representation of all natural products as parts of one integrated whole—one whose internal composition Kant models globally on that of natural organisms. Representing nature as a organized whole can be functionally decomposed into the representation of its component parts (= substances), interactive structure, and a system for ordering multiple interactive structures hierarchically. By functioning as a program of a priori cognitive directives that contribute jointly to the mind's representation of nature as a multi-level system of interactive structure, IPRs subserve reason's highest-order cognitive end of representing all natural products as parts of a single super-object.

CONTENTS

LIST OF FIGURES

ABBREVIATIONS

CPJ	*Critique of the Power of Judgment* (1790)
CPrR	*Critique of Practical Reason* (1788))
CPuR	*Critique of Pure Reason* (1781/1787)
ID	*Inaugural Dissertation* (1770)
JL	*Jasche Logic* (1800) (*The Cambridge Edition of the Works of Immanuel Kant In Translation)*
LM	Kant's *Lectures on Metaphysics* (*The Cambridge Edition of the Works of Immanuel Kant In Translation)*
MFNS	*Metaphysical Foundations of Natural Science* (1786)
New Eluc	*New Elucidations of the First Principles of Metaphysical Cognition* (1755)
NF	*Notes and Fragments* (2010) (*The Cambridge Edition of the Works of Immanuel Kant In Translation)*
OP	*Opus Postumum* (1993) (*The Cambridge Edition of the Works of Immanuel Kant In Translation)*

Chapter One

INTRODUCTION: MOTIVATING KANT'S THIRD CRITIQUE

> Every formal system in philosophy must be "motivated," and the informal task of providing that motivation typically contributes more philosophical illumination (or at least doctrine) than the system for which it paves the way. There is always more than one candidate system or perspective crying out for philosophical exploration and development, and in such an unruly arena of thought, tactical considerations play an unusually important role.
>
> —Daniel Dennett, *The Intentional Stance*

1.0 Why Is There A Third *Critique*?

For many philosophers interested in Kant's work the third critique is a dark horse. A brief sample of the attitudes of some professional philosophers (some of whom are well-known Kant specialists) toward the third critique confirms this:

> The *Critique of Judgment* is a work of great complexity as well as obscurity.[1]

> That the [third] *Critique* is difficult enough to be in need of exposition will not be questioned by anyone. For my part I found it difficult enough at the beginning to grasp even the main lines of Kant's argument, and still more difficult to understand the details.[2]

Commentators who do overcome (to some extent) the (notorious) obscurity of the third critique's philosophical theses (to say nothing of the structure of its arguments) subsequently face the further difficulty of assimilating these various theses into the larger architectonic framework of Kant's thought.

> Philosophers have always considered Kant's third and last *Critique*, the *Critique of Judgment*, a somewhat puzzling book, although for different reasons. Those who view Kant primarily as a descriptive metaphysician

[1] Paul Guyer, *Kant's System of Nature and Freedom* (Oxford University Press, 2005), Preface.

[2] H.W. Cassirer, *A Commentary On Kant's Critique of Judgment* (Barnes and Noble, 1974), Preface.

> trying to establish the conceptual foundations of our knowledge of the world have found it difficult to reconcile the basic results of Kant's first *Critique* with central statements of the last *Critique* -- for example, those concerning causality and mechanical explanations.[3]

Paul Guyer, who has developed a substantive interpretation of the third critique, one where he assigns it the job of "bridging the gulf" between nature and freedom, acknowledges the apparent obsolescence of *a third* critique. Thus Guyer himself asks:

> But what problem about the efficacy of the laws of freedom in the realm of nature could remain to be solved after the first two *Critiques*?[4]

Evidently, the third critique is puzzling along multiple Kant-internal dimensions. Rolf-Peter Horstmann elaborates on the puzzlement surrounding the third critique:

> This criticism ranges from the suspicion of artificiality via the accusation of arbitrariness to the supposition that Kant had no guiding conception at all in conceiving the third *Critique*. … The problems mentioned so far originate in obscurities accompanying the principles by which Kant's systematic intentions are constructed. Yet another group of problems arises when the third *Critique* is viewed as a body of propositions concerning the mental faculty of judgment, the beautiful, and organisms. Here, complaints about difficulty in discerning exactly what Kant claims about these three topics alternate with very definite statements concerning what is wrong with Kantian faculty psychology, what is ill-conceived within his aesthetic theory, or, finally, what are the shortcomings of his views on teleology.[5]

From these various problems, whether they concern the pinning-down of what Kant actually says, or whether the claims he makes in the other two critiques are

---

[3] Rolf-Peter Horstmann, "Why There Must Be a Transcendental Deduction In Kant's *Critique of Judgment*," in *Kant's Transcendental Deductions*, ed. Eckart Forster (Stanford: Stanford University Press, 1989), 156.

[4] Paul Guyer, "Bridging the Gulf: Kant's Project in the Third Critique," in *A Companion To Kant*, ed. Graham Bird (Wiley Blackwell, 2009), 424.

[5] Horstmann, 158.

compatible with those he makes in the first critique, the single tributary into which these issues flow is *why*, under what motivation, Kant wrote the third critique. Indeed, Horstmann concludes:

> He obviously did not succeed in giving unambiguous indications about the function and the results of the third *Critique*. In other words, his treatise on judgment lacks explicit and intelligible answers to some very elementary questions -- the most elementary being the question of why the third *Critique* was ever written at all.[6]

Paul Guyer seems to corroborate (in a somewhat less aggressive tone) Horstmann's impression concerning the unclarity of Kant's motivation for writing the third critique. As Guyer observes,

> Kant does not immediately reveal a profound motivation for the new book in either the first draft of its Introduction, the so-called First Introduction of 1789 (20:193-251), or in the Preface or first section of the published Introduction as well as several subsequent sections.[7]

Nevertheless Guyer, like other commentators, believes that the third critique was guided by a "deeper motivation" (Guyer's phrase), one which will explain why that work is composed of its two major treatises and, in addition, how their combination can be viewed to subserve larger philosophical aims that link the entire work architectonically to Kant's thought.[8]

This aim of the present chapter is largely cartographical. In it I draft a map of the secondary literature concerning the third critique (noting some of the main

---

[6] Horstmann, 158-59.

[7] Guyer, “Bridging the Gulf,” 424.

[8] As Donald Crawford points out, Kant does reveal a higher motivation in his letters, for example in his letter to Reinhold, 31 Dec 1787.

approaches to it) with the intention of locating my own view within the suggested cartography. However, before launching into a discussion of the various motivations commentators have proposed for Kant's third critique, some minimal background on its internal structure should be provided.

1.1 Concise Anatomy of the Third Critique

Kant's third critique, the *Critique of the Power of Judgment*, is a work composed of two halves -- the Critique of the Aesthetic Power of Judgment (APJ, for short) and the Critique of the Teleological Power of Judgment (TPJ, for short).[9] To perform a judgment is, essentially, to perform an act of *subsumption*; therefore, as we will see below, the power of judgment is conceptualized in terms of that operation. The fact that the third critique is a single treatise composed of two halves implies, I think, that (in Kant's mind) there is *one* power that either has multiple dimensions or is *variously used*.[10]

Kant wrote two introductions to the third critique, only the second of which was originally published, both of which however contain philosophically substantive material; while there are some redundancies or overlap in topical discussion, there are nontrivial differences in emphases and content. In the literature, these introductions

---

[9] Each of these halves, as you might expect, contains considerable internal complexity. For instance, each contains, like the first critique, an Antinomy and a Dialectic.

[10] Evidently, Kant holds this same view about the faculty of reason. On this issue, see Sebastian Gardener's, "The Primacy of Practical Reason," in *A Companion To Kant*, ed. by Graham Bird.

are sometimes referred to (sensibly enough) as the First Introduction (FI) and the Second (or published) Introduction (SI). I will follow the First/Second convention. This concludes the structural anatomy of the third critique. Next, the aim is to introduce the third critique's main topics.

As remarked (in the Guyer quote above), the third critique introduces (and develops) what Kant calls a "reflecting" (as contrasted with "determining") judgment.[11] Kant's official formulation of the difference is not particularly illuminating. According to Kant the difference between the two types of judgment is to be explicated in terms of which *direction* an act of a subsumption proceeds: either from the universal to the particular or from the particular to the universal; if the former, then the judgment is of the "determining" sort ; if the latter, then the judgment is of the "reflecting" sort.

My aim is not to provide a detailed analysis of the difference between these two types of judgment. Some clarification may, however, be useful here. In the *Jasche Logic*, Kant distinguishes between logical determination and logical abstraction; the former is a case of specialization (where a judgment is made from higher abstraction to a lower one): bird => gull. In the latter case, members of a given subtype are considered in respect of some supertype (and its more abstract features): gull => bird. When Kant describes the exercise of judgment as

[11] Under Kant's generic account of reflecting judgment, Guyer (2003) distinguishes five different types of reflecting judgment: The reflecting judgment of the system of scientific concepts, the reflecting judgments of beauty (aesthetic judgment), the reflecting judgment of the sublime (aesthetic judgment), the reflecting judgment of particular organisms (teleological judgment)**,** the reflecting judgment of nature as a whole (teleological judgment).

"determining," he seems to view concept-users to be making a subsumption whereby a given subtype (or subclass) of entity is subsumed under a supertype (or superclass) of entity; in doing so, the supertype conceptually inherits the subtype (as part of its extension) and the members of the subtype inherit the features or characteristics of the supertype. Consequently, by making a determining judgment concept-users *specialise* the supertype in relation to its subtype. A certain sort of conceptual unity (as well as ontological unity) is the result. (I discuss this in somewhat more detail in 1.4.)

If determining judgments are modeled on logical determination, then (given Kant's formulation two paragraphs up) one might naturally suppose that reflecting judgments are to be modeled on the *reverse* procedure of logical abstraction. Unfortunately, this supposition doesn't square so well with the formulation Kant gives of reflecting judgments, one where there is an "unknown" universal to be determined by the reflecting judgment. In the case of logical abstraction, which may occur within an operative system of concepts, supertypes would presumably already be determined and set up hierarchically. At any rate, whatever cognitive operations are involved in making a reflecting judgment, it seems clear that Kant intends judgments of this type to figure prominently in an account of (empirical) *concept-formation*, not merely conceptual abstraction.[12]

---

[12] What kind of empirical concepts is the principle (of systematicity) supposed to be a condition of? On this point, Henry Allison's writes: "The key to the answer lies in Kant's expression "determined empirically," which I take it means being determined by underlying, empirically real features of things rather than merely superficial features, which reflect the contingencies of the way in which we happen to encounter these things in experience. In other words, Kant's claim is not that

In the literature there is disagreement over how to explicate the precise structure of the reflecting judgment. It's clear, however, that it occupies centerstage in Kant's third critique. Reflecting judgment is a *generic type* under which Kant distinguishes two judgment subtypes, namely, the aesthetic and teleological judgment. (See Diagram below.) Suffice to say that an analyses of each type of reflecting judgment is given a separate treatment in the book and affiliated with a corresponding type of *subject matter*. The first half (the Critique of the Aesthetic Power of Judgment, or CAPJ, for short) consists of an analysis of our judgments concerning beauty (natural or artefactual).[13] In this work, Kant presents two models, namely, a model of (what he calls) the "judgment of taste" and of the judgments of the "sublime." Again, in the present context we need not know the details about Kant's models for these judgments. Suffice it to say that judgments of taste are about beauty, whereas judgments of sublime are, for instance, about the "immense" or "powerful."

---

systematicity is a condition of the possibility of forming any empirical concepts, since *any* common features would provide reflective judgment with something to compare; it is rather a condition of forming empirical concepts that are cognitively significant, that "carve nature at its joints" if you will." Henry Allison, "Is the *Critique of Judgment* 'Post-Critical'"?" In *The Reception of Kant's Critical Philosophy: Fichte, Schelling, and Hegel*, ed. by Sally Sedgwick (Cambridge University Press, 2000), 85.

[13] Kant distinguishes between two types of beauty, one that he calls "free beauty," the other "dependent beauty." This "thorny" distinction is surrounded by controversy. As Donald Crawford (1974) observes, since the aim of the Analytic of the Beautiful is to provide an analysis of the judgment of taste, the free/dependent beauty distinction should be understood first and foremost as a difference in the type of *judgment* (and its affiliated use-conditions). Judgments of free beauty are pure because they are disinterested and nonconceptual, whereas judgments of dependent beauty are "impure" because they presuppose the concept of an *end* or *function* (of what the thing is supposed to be). Crawford's well-known account of dependent beauty emphasizes (and aims to accommodate) the normative dimension of aesthetic evaluation, where judging a thing's beauty requires taking into consideration what type of thing it is supposed to be (e.g., 'That is a beautiful *woman'* as opposed to 'That is a beautiful cathedral').

Diagram 1.1: Two Main Uses of Reflecting Judgment

Judgment-Type	Subject Matter	Location
Aesthetic Judgments	The Beautiful, The Sublime	First Half (APJ)
Teleological Judgments	Natural Teleology (Organisms)	Second Half (TPJ)

In the second half of the third critique (the Critique of the Teleological Power of Judgment, or TPJ for short), Kant introduces his concept of "objective material purposiveness," as exhibited by the phenomena of natural organisms. Natural teleology is the focus of Kant's interest in the TPJ.

In the present work, my aim will be to motivate *only* the second half of Kant's third critique (TPJ).[14] The TPJ is divided into three main components: the Analytic of Teleological Judgment, the Dialectic of Teleological Judgment and the Appendix. Below is a partial list of some of the main theses to be found in the Analytic of Teleological Judgment, either all or some subset of which are thought to characterize Kant's attitude toward natural teleology and/or naturally-occurring material organization:

a) *That* material nature *in toto* is to be conceptualized on the model of an (individual) organism: nature in its entirety is consists in one (necessarily unified) integrated whole, one with a universally organized structure of parts (see §§66-67).

[14] The first half will, I hope, be the project of a future work. I am a unified field theorist (UFT) concerning Kant's third critique (see 1.2 on the meaning of that term), but there is only so much one can accomplish in a single dissertation.

b) *That* natural organisms must (in some sense of 'must') be explained in teleological terms (see §§64-65); in other words, such natural phenomena cannot be understood (actually, they cannot be made "intelligible," a technical term for Kant) except when conceptualized as products of intentional causation (by analogy with ourselves).

c) *That* human beings are *members* of the class of natural organisms. Moreover, because *we*, as rational agents, are capable of practical intentionality, we consequently introduce *agent causation* into nature (*via* our membership in the class of natural organisms).

d) *That* natural organisms model a form of "reciprocal causality" *in propria persona* (see §64).

As a group, there is limited consensus on (a)-(d).[15] Regarding theses (a)-(c) there is agreement among Paul Guyer (2003), Robert Wicks (2007), Henry Allison (2003), and Andrew Ward (2006). Regarding (d), which turns out to be of considerable importance in the present work, there is some acknowledgement (Guyer (2000, 2003), Wicks (2007), and Rachel Zuckert (2007)). Nay-sayers about (b) include Hannah Ginsborg (2006) and, I think, Zuckert (2007), both of whom read Kant as advocating a non-intentional type of teleological explanation (one that does not

[15] This data is also limited by my investigative methodology. In my research, I have relied exclusively on Kant scholarship written in English. I therefore restrict the accuracy of the consensus to a subset of major (relatively high-profile) Kant specialists who have written on the third critique's *second half* in English (or had their work translated into same).

explanatorily rely on reference to an intention).

1.2 Is There A Deeper Motivation For Kant's Third *Critique*?

In 1.1 we noted that the third critique has two major parts, the APJ and the TPJ. Kant's third critique provides a theory of the beautiful and of the sublime (what is known now as philosophical aesthetics) and, in addition, an analysis of natural teleology (what is known now as the philosophy of biology). So, the question is this: Is the philosophical significance of Kant's third critique to be cashed out in separatist terms, ones which are domain-specific, so that there is an aesthetic significance on the one hand and a teleological significance on the other but no *overarching* (or, to switch the metaphor, *underlying*) set of Kant-internal aims or objectives that coherently link these two (apparently unrelated) foci of concern? Or is there instead some adoptable *architectonic* standpoint in Kant's work (the equivalent of a Unified Field Theory for the third critique), one where its two major parts could be conceptually linked and viewed as co-contributors to a shared set of philosophical objectives?

Those who answer 'yes' to the first question (and 'no' to the second) I shall refer to as *separatists*[16]; those who answer 'no' to the first question (and 'yes' to the

---

[16] Horstmann registers the attitude of (what I'm calling) the separatists: "There has been much criticism of Kant's bringing together into a comprehensive theory of reflective judgment such widely separated disciplines as aesthetics or philosophy of the beautiful on the one hand, and philosophical biology on the other, connecting them by claiming a common conceptual basis in the concepts of purpose and/or purposiveness. This criticism ranges from the suspicion of artificiality via the accusation of arbitrariness to the supposition that Kant had no guiding conception at all in conceiving the third *Critique*" (Horstmann, 158, emp added).

second) I shall refer to as *unified field theorists* (UFTs, for short) concerning the third critique. Of course not every interpretation of the third critique on the market to date reflects a field theorist's attitude. Yet, in my (limited) review of the literature, I have not encountered any commentator who set out to *argue* a separatist position on the third critique. Rather readings of or about the third critique that reflect a "separatist" view (by its narrow concerns or treatment) seem to be the result of commentators' operating under more narrowly defined research agendas (say, art-historical or those concerned with the philosophy of biology).

Paul Guyer (2006), who is not known for speculative readings of Kant's work but rather for his solid philosophical reporting and careful textual analyses, is a reputable example of the field theory attitude toward the third critique:

> It seems that the main task of the third *Critique* will be to introduce a conception of a new class of judgments or new sense of the power of judgment, "reflecting" (*reflecktirend*) judgment, which will subsume the aesthetic and teleological judgment and demonstrate both their affinities with, and differences from, the theoretical judgments analyzed and grounded in the first *Critique* and the moral judgments treated in the second. Many interpretations of the unity behind Kant's puzzling connection of aesthetic and teleological judgment have focused on the introduction of the concept of "reflecting" judgment into Kant's system. Without downplaying the importance of this concept, however, I will argue that Kant was driven to connect the aesthetic and teleological judgment by a much more profound and powerful motivation than that of mere systematic housekeeping.[17]

For many commentators on the third critique there is what might be described as a first-order level, where Kant is expounding and formulating his various philosophical

---

[17] Guyer, "Bridging the Gulf," 423-24.

theses and providing argument for those theses. However, for many readers of Kant's third critique, there is *another level* of philosophical activity, one that *makes use of* Kant's first-order philosophical achievements for its own objectives; in other words, what I'm suggesting is that, in the case of the third critique, the first-order consists in acknowledging and conceptualizing certain *data* relative to the second-order of philosophical activity. The suggestion is that, for many commentators, getting clear on what Kant actually *says*, in terms of the many theses he puts forward (and the arguments he makes in support of those theses) isn't enough; the attitude is that there is some second-order level of philosophical activity, one that is mostly implicit, which is motivating what Kant does on the first-order level. And if we are going to grasp what Kant is really *up to* in the third critique, then this underlying motivation must be made explicit.

Let me further clarify what I'm *not* saying. First, understand that I'm not making the familiar distinction about pre-theoretic (or pre-analytic or pre-philosophical) data on the one hand and philosophical theory on the other; because at the first-order level, Kant *is* certainly introducing empirical data (the phenomena of natural organisms, for instance) and, in addition, conceptualizing that data. The first-order level is therefore a level of philosophical theorizing; it isn't *theory-free*. Theorizing about the second-order level, saying what its *content* is, is in effect theorizing about the *point*—the *philosophical* point—of all the theorizing Kant does at the first level.

Second, in the second half of Kant's third critique (where the focus is on natural teleology), some commentators read Kant as presented a multi-level explanatory framework, one where the "sensible" world (governed exclusively by mechanical laws) constitutes the phenomenal superstructure relative to a another noumenal domain, one which Kant characterizes as "the supersensible substrate of nature" (viewed as a system of ends). This two-tiered explanatory structure is a *substantive part* of Kant's first-order theorizing and so it is not to be confused with the first/second-order levels of philosophical activity that I'm referring to; rather the two-tiered sensible/supersensible framework is itself *part of* the first-order theorizing that our analyses should be seeking to motivate.

What I try to accomplish in this dissertation is to set up an interpretative framework, one which will specify Kant's motivation for writing the third critique. It should therefore provide a set of concerns and/or issues that can plausibly be attributed to Kant; moreover, the interpretation that emerges (from within my interpretative framework) should be plausibly linked to what Kant says in the third critique (i.e., should be linked to first-order fairly noncontraversial philosophical data concerning the first critique). What I hope has emerged from my research on the third critique is an interpretative framework which, when adopted, illuminates Kant's text and allows us to view what Kant is up to in the third critique from a standpoint where what he is doing *there* may be convincingly linked to other key philosophical aims that are recognized as legitimately Kantian.

What is distinctive about my research on the third critique? What does my research bring to the table that has not already been introduced? In order to answer these questions, I need to set up a basic taxonomy of the various types of interpretative frameworks that have been offered so far and then situate myself within it. The chief benefit of doing so is that it will provide a superstructure in which to locate my project and, by that means, give the reader beneficial access to an aerial view of some rather complicated terrain. Doing so will, in addition, allow me to introduce, in broad strokes, the terms in which I conceptualize the motivation for Kant's third critique.

1.3 A Map of Interpretative Frameworks Concerning Kant's Third Critique

The results of aerial reconnaissance often reveal structures that, like Peruvian geoglyphs, cannot be recognized from the surface. So, if reconnoiterers are to understand what they're encountering on the ground, it's useful for them to know what the terrain looks like from the air. The aim of this section is to provide a picture, taken from high-altitude, of the terrain of secondary literature concerning Kant's third critique.

Implicit in the literature to date on the third critique there appear to be at least[18] three broadly different sorts of interpretative frameworks, one which is *science-oriented*, another which is *morality-oriented*, and a third which is *cognition-*

[18] This taxonomy is not intended to be exhaustive. I have left out, for instance, approaches of the third critique that are implemented by nonphilosophers, such as art-historical approaches or literary and/or critical theory-type approaches (which are usually conceptually nonrigorous and rather opaque).

oriented. (See Table 1.3 below.) Under a science-oriented reading, the philosophical significance of the third critique is viewed in terms that reflect issues or concerns pertaining to the philosophy of science or, more specifically, to what is now known as the philosophy of biology. Under morality-oriented readings, the third critique's philosophical significance is explicated in moral terms, ones that reflect Kant's concern over how to conceptualize the relation between nature and freedom. Under cognition-oriented readings, the third critique's philosophical significance is explicated in more epistemological terms, which reflects the view that the third critique is, in some way, an extension of the first critique's model of "experiential cognition." Let me briefly elaborate on each of these three types of interpretative framework.

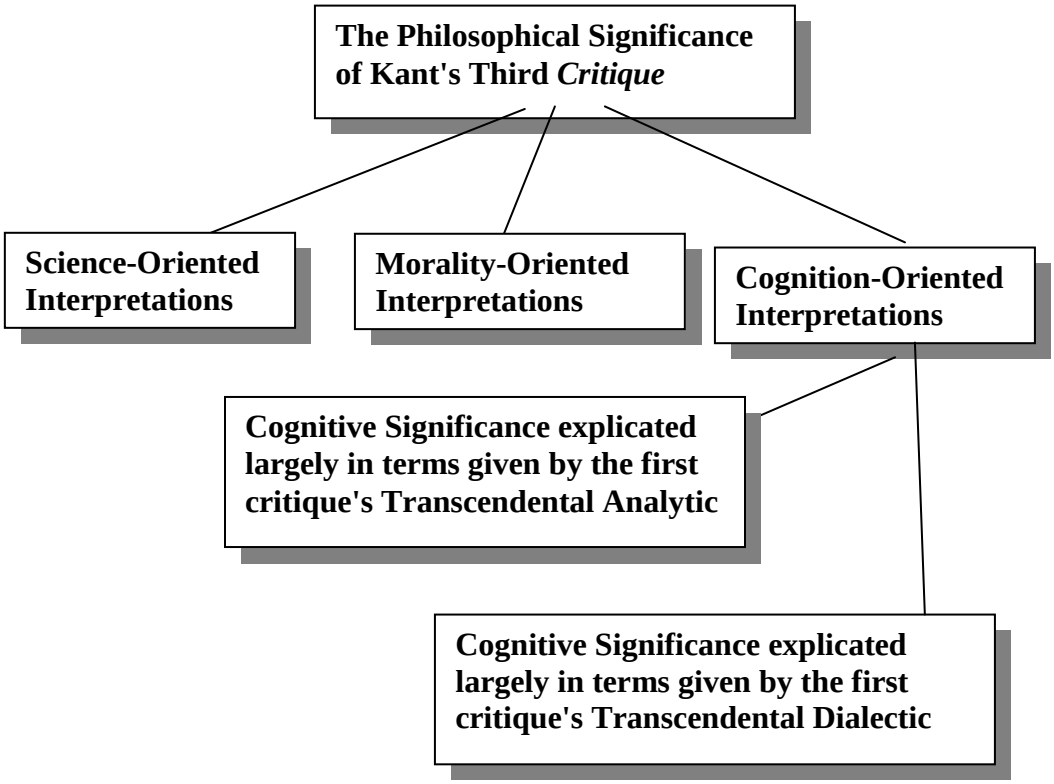
Under a science-oriented reading (which seems to be accompanied by a general view of Kant as a reactant to Hume), the third critique is an *extension* of Kant's first critique concerns with causality in nature. However, in the third critique, the concern is not over *justifying* objective validity of the concept of causality *per se* (since that is an objective of the first critique) but rather to develop a conceptualization of nature as a domain of causal necessity (a causal nexus), one that incorporates both mechanistic and teleological explanatory norms. Kant's remarks on nomic systematicity (nature as a system of empirical laws) appear to be very salient under the science-oriented reading, and these remarks are viewed to express Kant's interest in articulating the theoretical (or transcendental) presuppositions of natural

science. Representatives of the science-oriented reading of the third critique are Gerd Buchdahl (1992) and, in a qualified way, Paul Guyer[19] (2001).

Also, there are similar sorts of readings of the TPJ which reflect the narrower concerns of the philosophy of biology, viewing Kant's interest in natural teleology as an expression of pre-Darwinian biology. Usually, these science-oriented interpretative frameworks, approach the third critique from the angle of the history of natural science, or they do so from the standpoint of the philosophy of biology. Concerning the former, these narrower readings of the third critique do not reflect a field theorist attitude toward the third critique; moreover, if they do attempt to link the third critique (TPJ) architectonically to the first, it is done under the assumption that Kant is primarily a philosopher of science, one who is interested in vindicating the practice and methods of natural science by vindicating a view of material nature as a domain of causal necessity.

[19] Guyer reports on the role of the TPJ: "Kant's idea is that it is precisely a systematic explanation of all the phenomena of nature by some single, coherent sets of laws, presumably one conforming to the regulative ideal for a systematic cognition of nature subsequently outlined in the *Critique of Pure Reason*, that is the only basis for a successful inference from features of nature to the existence of God, who demonstrates both his wisdom and his power precisely by being able to accomplish all of his rational ends through the uniform and unified laws he has legislated for nature. Such a view would then suggest a model for the resolution between the regulative ideal of the unity of science on the one hand and the teleological view of the world as a whole to which we are led by our experience of organisms on the other." Paul Guyer, "Organisms and the Unity of Science," in Kant and the Sciences, ed. Eric Watkins (Oxford University Press, 2001), 262.

Table 1.3a: A Map of Interpretative Frameworks Concerning the Third Critique



As for the philosopher of biology, the third critique (the TPJ) reflects Kant's concerns over how to explanatorily *cope* with a large class of natural phenomena (organisms), one that potentially threatens a purely mechanistic conception of nature. The significance of natural organism, within this narrower type of science-oriented framework, is that they induce a sort of *explanatory crisis*. Kant's physicoteleology would be viewed, by contemporary biologists, as an (outdated) pre-Darwinian solution to the explanatory crisis induced by the acknowledgement of naturally-occurring material organization. Representing the philosophy and/or history of

biology-oriented readings are Peter McLaughlin (2003, 1990) and John McFarland (1970).

Typically, under a science-oriented reading, the focus is on either the third critique's First/Second Introductions and on its second half, but the APJ is often excluded from consideration. Because of this, science-oriented readings tend not to reflect a field theorist attitude toward the third critique. But this should not be taken to imply that science-oriented readings reject the view that the third critique can be absorbed architectonically into Kant's work. Exactly *how* the third critique is to be absorbed into Kant's thought depends in fact on *which model of Kant* you are operating under, whether, say, Kant is viewed as a philosopher primarily interested in vindicating natural science or as a philosopher primarily interested in vindicating morality.

It should come as no surprise that, under a morality-oriented reading, Kant is viewed as a philosopher primarily interested in vindicating morality. Unlike science-oriented readings of the third critique, morality-oriented interpretative frameworks tend to treat the third critique more *holistically*. Guyer exemplifies this procedure (rather vividly) in his "function-analytic"[20] model of the third critique, where its two major halves work together like the parts of a machine:

> Ultimately, Kant hints that the two motors of aesthetics and teleology [referring to the first and second halves of the third critique] must be wired together in the single system of both nature and freedom that is the ultimate

[20] The term is not Guyer's; rather the characterization is mine. A "function-analytic" model is one in which an item is conceived as a whole consisting of multiple parts all of which are functionally integrated for the sake of some shared (apical) highest-order function (a final end).

> object of his philosophical vision--a vision of which the *Critique of Judgment* taken as a whole is Kant's grandest and fullest statement.[21]

The two halves of the third critique are viewed as providing complementary sets of enabling conditions for *moral enactment*. (I say more about this later.) Representing this interpretative framework are Paul Guyer[22] (1997, 2003, 2006), Donald Crawford[23] (2003), Burleigh Wilkins[24] (cit ref.), Robert Wicks[25] (2007), and Andrew

---

[21] Paul Guyer, *Kant and the Claims of Taste* (Cambridge University Press, 1997), xiv.

[22] See the footnote at the end of this paragraph.

[23] In "Kant's Theory of Creative Imagination," Crawford's aim is to link Kant's philosophy of art to his philosophy of mathematics. However, in providing Kant's answer to the issue over "the ultimate significance of art and the aesthetic experience" (158), Crawford fairly clearly locates himself in the morality-oriented reading: "Through the exercise of creative imagination in both the creation and experience of the beautiful, we seem to rise above the world of sensibility and empirical laws to the realm where our supersensible powers seem to be effective of our purposes. The beautiful pleases ultimately because it is the symbol of morality, that is, because it symbolizes our supersensible freedom from nature and our supersensible dominion over it, whereby our will can reign supreme." Donald Crawford, "Kant's Theory of Creative Imagination," in *Kant's Critique of the Power of Judgment: Critical Essays*, ed. Paul Guyer (Rowman and Littlefield, 2003), 166. Putting this aside, however, one could appreciate Crawford's approach from the standpoint of a cognition-oriented framework. Crawford's investigation into the analogy between the philosophy of mathematics and that of art generates an analysis of a key component of Kant's transcendental psychology (namely, the productive imagination) as well as a discussion on schemata. In aiming to articulate the dimensions along which mathematics and art are analogous, Crawford's analyses bring clarity to Kant's discussions of the (intuitive, aesthetic) elements of empirical cognition.

[24] Wilkins' position, which acknowledges Kant's multidimensionality, appears nevertheless to endorse a morality-oriented reading: "We must, I think, recognize that Kant as a teleologist may be playing any of three roles; the fact that he may be playing them separately or together adds to our difficulties. In speaking of ends, he may be speaking as a moralist, as a philosopher of science (or history), or as a scientist (or historian). Generally, in his first and third capacities he seems to be saying, roughly, the same thing, namely that the end of human history is a federation of states. As moralist, he considers this to be a *final* end, and as moralist he is immune from Popper-like criticisms. As historian, he considers this kind of organization to be a *natural* end of an organized being such as man ... ". (Burleigh Wilkins, "Teleology in Kant's Philosophy of History" in *History and Theory* 5, No. 2 (1966), 184. In the third critique, Kant draws a distinction between an "ultimate" and an "absolute" final end of nature (UFE and AFE, for short). The AFE is specified as "the highest good in the world," which is freedom or rational autonomy. The UFE, which subserves the AFE, is specified as the formation of a civilized state, one in which citizens learn to subject their sensuous natures to civic laws, thereby furthering the ends of morality by promoting the development of norm-governed self-regulation.

Ward (2006)[26]. Not only does a morality-oriented framework, such as Guyer's, link the two parts of Kant's third critique under a single guiding motivation (of enabling moral enactment in nature), it does so by linking the third critique architectonically to the first *and* second critiques. Since, on Guyer's view, Kant's entire philosophical system acknowledges the "primacy" of *practical* reason, the motivation for the third critique is to be explicated accordingly in terms that reflect the interests of practical reason.[27]

Some recent (post-millennial) scholarship on Kant's third critique indicates, however, an interesting *shift* in interpretative frameworks. In addition to the science-oriented and morality-oriented interpretative frameworks, there is (what I call) the

---

[25] In his recent commentary on Kant's third critique, Robert Wicks writes: "The leading idea is to show while remaining focused on Kant's third *Critique*, how it fits into his primary philosophical project of coordinating his theory of scientific knowledge with this theory of moral behavior, for it is clear that Kant's primary philosophical interest is in philosophically coordinating what scientifically happens to be, with what morally ought to be." Robert Wicks, *Kant on Judgment*, (Routledge Press, 2007), x-xi.

[26] Ward states: "The *Critique of Judgment* (or *Third Critique*) has as its overall aim to show that the two realms that were discussed in the *First* and *Second Critiques* -- namely, those of nature and freedom (or morality) -- can be bridged by means of the faculty of judgment." Andrew Ward, *Kant: The Three Critiques* (Polity Press, 2006), 183. Evidently, Kant's interest in, and analyses of, natural teleology (and his physicoteleology) does not, on Ward's view, contribute much (or at all) to effecting the bridge between nature and freedom. Unlike Guyer, Ward thinks "of these two [the APJ and the TPJ], it is mainly in the first part [APJ] that Kant seeks to link the realms of nature and freedom via the faculty of judgment" (Ibid., 183). But if that's true, then we are left, under Ward's interpretation, with the puzzle about why Kant combines the APJ and the TPJ into one work. On Ward's interpretation, it appears that only the APJ is motivated, not the TPJ.

[27] Guyer states: "And the moral significance of both natural and artistic beauty depends on preserving the freedom of the imagination in aesthetic experience while adding content to art or seeing freedom of aesthetic experience itself as a symbol of the freedom that is the heart of Kantian morality. Finally, the teleological judgment of natural organisms and systems also turns out to be required more by moral than by scientific concerns, and works of Kant's final decade from the attempted essay on *Real Progress of Metaphysics* (1793?) to the *Metaphysics of Morals* (1797) make it clear that Kant's interest in our complex attitudes towards both art and nature must be fit into his overarching visions of the primacy of practical reason." Paul Guyer, *Kant and the Claims of Taste* (Cambridge University Press, 1997), xv. Guyer's more recent publications on the third critique (2003, 2006) demonstrate that his view has not changed.

cognition-oriented reading of the third critique. Under this type of reading, Kant's motivation for writing the third critique is explicated as a response to issues deriving from either epistemology, the philosophy of mind, cognitive science (embodied cognition), or the philosophy of mental representation. Within this interpretative framework, Kant's third critique is viewed architectonically as an extension of the first critique's concern with developing (some dimension of) his model of empirical cognition. Hannah Ginsborg, whose dissertation (*The Role of Taste in Kant's Theory of Cognition*, 1990) attempts to link Kant's model of aesthetic judgments to Frege's work, is probably the one most responsible for pioneering the cognition-oriented interpretative framework. More recent representatives of this type of reading are (again) Hannah Ginsborg (2006), Rachel Zuckert (2007), Fiona Hughes (2007) and probably also Henry Allison[28] (2003). Further evidence for, and acknowledgement of, this post-millennial shift in interpretative framework is to be found in the recent publication of *Aesthetics and Cognition* (2007), a topic-oriented compilation of essays, edited by Rebecca Kukla, which offers discussions on issues concerning the

[28] Concerning the third critique, Henry Allison writes: "The basic problem, which is central to the *Critique of Judgment*, as a whole, is that the universal principles underdetermine the particulars falling under them. Thus, on the one hand, cognition requires a harmony or fit between the universals and the particulars to be subsumed under them, while, on the other hand, when one goes beyond the transcendental conditions of experience to which particulars necessarily conform, this fit turns out to be a completely contingent matter." Henry Allison, "Kant's Antinomy of Teleological Judgment," in *Kant's Critique of the Power of Judgment: Critical Essays* (Rowman and Littlefield, 2003), 228. And elsewhere in that paper: "Kant deals with this general problem in both versions of the introduction, providing what amounts to a transcendental deduction of the "formal purposiveness" of nature, that is, of the subjective necessity for judgment in its reflective capacity to presuppose that nature is specified in its empirical laws in a manner consonant with the requirements of the understanding" (Ibid., 228).

relation between Kant's third critique and various aspects of his epistemology or theory of cognition.[29]

1.3.1 Two Types of Cognition-Oriented Interpretative Framework

There appears, however, to be (at least) two subtypes of the cognition-oriented reading. While both draw on Kant's first critique for the terms in which to state the cognitive significance of the third critique, one subtype draws on the Transcendental Analytic, the other largely on the Transcendental Dialectic. The T-Analytic-oriented readings attempt to link Kant's third critique (or some part of it) to his transcendental psychology or, more specifically, to his transcendental deductions (either the so-called subjective or objective deduction); under this subtype, Kant's third critique is viewed as an extension of the first critique's project to provide a complete set of a priori "conditions for the possibility of experience," conditions that operate largely subpersonally and are supposed to make a first-personally structured object-oriented phenomenal consciousness possible. Representing this subtype are Ginsborg (1990, 2006[30]), Zuckert (2007), and Hughes (2007), the last offering probably the most developed statement in her *Kant's Aesthetic Epistemology*.[31]

---

[29] Interestingly, Guyer appears only as commentator on Allison's paper.

[30] In a more recent paper focusing on the second half of the third critique (TPJ), Hannah Ginsborg states: "If, as I have suggested, the possibility of bringing natural objects under empirical concepts depends on our being able to think of the cognitive activity elicited in us by those objects in normative terms, then the principle of nature's purposiveness for judgment amounts, in effect, to the principle that the relation between nature and our cognitive faculties is a normative one. In other words, it is the principle that the perceptual and imaginative activity with which we respond to nature outside us, while itself part of nature broadly construed, can also be regarded as *appropriate* (and, on occasion, *inappropriate*) to the natural objects which elicit it through their effects on our sense-

One notable difference among the members of this subtype is that, while Hughes focuses fairly exclusively on the APJ (on Kant's theory of taste and the sublime), Ginsborg (2006) focuses on the TPJ (on the "philosophical significance" of natural teleology). However, Zuckert (2007), however, who certainly exhibits a field theorist attitude, treats the *entire* third critique, under a reading where Kant is attempting to provide the conditions for the possibility of a temporally-extended (and object-oriented) apperceptive self-awareness.[32]

---

organs." Hanna Ginsborg, "Kant's Biological Teleology and Its Philosophical Significance," in *A Companian to Kant*, ed. Graham Bird (Wiley-Blackwell, 2009), 466. Further, she says: "The idea of nature's purposiveness for judgment is the idea of a normative fit between nature outside of us, and the natural psychological processes through which we perceive and conceptualize it. It is ultimately our need to recognize this relation of normative fit which underwrites our entitlement to regard natural objects -- now considered independently of these perceptual and cognitive processes -- in normative terms" (ibid., 466).

[31] Hughes states: "I argue that the subjective deduction is the necessary corollary of the objective deduction of the categories and that the full account of the subjective side of cognition can only be found in certain passages in the *Critique of Judgment.*" Fiona Hughes, *Kant's Aesthetic Epistemology* (Edinburgh University Press, 2007), 5. Elsewhere in her book Hughes writes: "In this chapter [Chapter 5] I have shown how the cooperation of the faculties, identified as synthesis in process in the previous chapter, counts as the subjective side of the deduction. In particular, I have argued that in Section 21 of the third *Critique*, Kant seeks to establish that the synthetic process displayed in aesthetic judgment is necessary for the legitimating of claims to objective knowledge" (ibid., 201). More explicitly, Hughes argues: "Aesthetic judgments reveal the subjective side of the deduction, as first outlined in the Preface to the A edition of the first *Critique*. Moreover, they do so in such a way as to show that the subjective deduction is not to be understood hypothetically or genetically, but rather as part of the formal structure of validity in general, a validity that always has two sides, that of the subjective, but universal structure of judgment and that of the latter's application to an intentional object. Put in this way, we can see that the subjective side of the deduction is an essential component of establishing objectivity. Thus we can justify the suggestion I made in the previous chapter that aesthetic judgments contribute to the general transcendental project of establishing the possibility of *a priori* synthetic judgments, for they reveal the synthetic activity of the faculties necessary for any cognition" (ibid., 176).

[32] Under Rachel Zuckert's view, the third critique is responding to what she describes as the problem of the one and the many. Zuckert attempts to link (as I do) the second half of the third critique (TPJ) with the concept of reciprocal interaction and the Third Analogy. But although we draw on the same Kant-internal material (from the first critique) we do not develop and conceptualize these materials in the same ways.

But all three of these commentators draw largely on the first critique's Transcendental Analytic (primarily its transcendental and/or metaphysical deductions) for the terms in which to *state* the third critique's cognitive significance. Consequently, the third critique is, within their interpretative framework, to be motivated primarily from the standpoint of the Transcendental Analytic and its concerns with the *understanding*, that is, with providing the subpersonal conditions for (some dimension of) a first-personally structured (and categorially-determined) intentional consciousness.

Among those commentators who think that there is a strong cognitive link between the first and third critiques, there is a difference in *where* the presumed link is to be located. According to a second subtype of cognition-oriented reading, the third critique's connection to the Babylonic sprawl of the first critique is not so much with the Transcendental Analytic as with the Transcendental Dialectic. Within this general port of entry it is the Appendix to the Transcendental Dialectic that is specified as the more precise point of contact between the first and third critique. (See Diagram 1.3b below.) Generally, the transition from the Transcendental Analytic to the Dialectic marks a *switch* in focus from the faculty of the understanding to that of *reason* (and the role of "the ideas of pure reason").

Yet it must be acknowledged that some commentators who are field theorists about Kant's third critique but who are not of the cognition-oriented type, also draw upon the resources of the Appendix to the Transcendental Dialectic for their interpretations. Paul Guyer is a good example here. Guyer links the third critique's

main innovation, namely, the model of "reflecting judgment" (thus its two subtypes, the aesthetic and teleological judgment), to Kant's concept of a regulative principle, thereby linking the third critique to the discussion in the Appendix. So the question is, then, what characterizes this second subtype of cognition-oriented reading if not a distinctive exegetical methodology?

1.3.2 The Second Type Focuses On Rational Structure

I think that guiding conviction of this second type of cognitive reading on the third critique is an acknowledgement of *two* fundamentally different and orthogonal (nonredundant) types of *cognitive structure*, each type being derived from a different part of human representational systems. On the one hand there are those types of cognitive structure that are *understanding-derived* (ones a priori category-guided transcendental syntheses can take credit for), while on the other there is a type of cognitive structure that is *reason-derived*. This difference between understanding and reason-derived cognitive structure is evidently the basis for the division between the Transcendental Analytic and the Dialectic.[33]

Diagram 1.3b:

System Affiliate	Type of Cognitive Structure	Determinant/Ground
Understanding	Causal Structure (Efficient)	The Categories (Relational)
Reason	Systematicity (Purposiveness)	Teleology (Agent Causation)

[33] Reinhard Brandt (1989) makes this point persuasively (see 178-79).

It is not the aim of the present section to offer analyses either of the Transcendental Dialectic or its Appendix (either part). (In fact the Appendix has two parts.) Suffice it to say, however, that commentators interested in motivating the third critique and who do so using resources derived from the Appendix generally cite (at least) *three* main linkages.

First, between the Transcendental Dialectic's Appendix (first part) and the third critique's First Introduction (FI), there is an overlapping concern with *rational systematicity*, where this is understood (partially) in terms of an Aristotelian classificatory hierarchy (genus, species, subspecies). Systematicity appears to be the special (and exclusive) business of the faculty of reason. Kant derives three separable concepts from this hierarchic representation of systematicity, namely, homogeneity, specification, and affinity.[34] Second, the Appendix (second part) and the third critique's Introductions (and TPJ) share a predominant concern with (various forms of) *purposiveness*.[35] Third, in the Appendix (first part) Kant introduces the distinction between two types of principle—"constitutive" and "regulative"—and, in

[34] Paul Abela (2002) and Reinhard Brandt (1989) both emphasize this hierarchically modeled systematicity in support of their readings of the third critique. Brandt states: "The principles of reason are transcendental because they presuppose that the principles of unity, specification, and affinity, which are initially only logical or methodological, accord with nature itself (A653; cf. A661). This guarantees the possible truth of our systematically structured empirical knowledge." Reinhard Brandt, "The Deductions in the *Critique of Judgment*," in *Kant's Transcendental Deductions*, ed. Eckart Forster (Stanford University Press, 1989), 180.

[35] Robert Wicks offers a useful taxonomy of Kant's concept of purposiveness (see Wicks, 190). The shared concern is with "objective material purposiveness" as displayed by individual natural organisms. There is, in addition, what Kant refers to as "logical purposiveness." I discuss this briefly below.

addition, argues that "the ideas of pure reason" (a.k.a., "transcendental ideas") have only a regulative (not constitutive) use.

One common conviction guiding the second type of cognition-oriented reading seems to be that Kant's analyses of purposiveness in his *third* critique must somehow link up substantively with the discussions of the purposiveness of nature in the Appendix to the Transcendental Dialectic. Furthermore, since in the Appendix the concern with nature's purposiveness occurs in a context where Kant's interests are to some extent *cognitive* (insofar as they pertain to the prescriptive role of the ideas of pure reason), the view is that his later third critique discussions of purposiveness (in its analyses of natural teleology and physicoteleology) are, in some philosophically interesting way, *extensions* of (or elaborations on) those very same cognitive concerns. Representing this subtype of cognition-oriented reading of the third critique are Rolf-Peter Horstmann (1989), Reinhard Brandt (1989), Paul Abela (2006) and myself.

1.3.2.1 What Is the Transcendental Status of (Rational) Systematicity?

Let us summarize the conceptual linkages mentioned in the preceding section as follows:

rational structure => systematicity => purposiveness => natural teleology.

Of the links just mentioned, rational systematicity is explicated by reference to a hierarchy of concepts, one that is apparently modeled on an Aristotelian (or Linnaean) system of taxonomy (genus, species, subspecies). One issue here seems to

be that, since cognitive judgment involves the operation of *subsumption* (which, by the way, operates under canonical forms of syllogistic inference) and since, in addition, subsumption involves discursively thinking a subtype *under* a supertype, it looks like cognitive judgment generally requires setting up some sort of formal apparatus -- a hierarchical ordering of concepts -- one whose internal structure makes subsumptive cognitive activity possible. In both the Appendix to the Transcendental Dialectic and in the third critique's First Introduction, the formal apparatus of a hierarchy of concepts appears (rather ambiguously) to be assigned the status of a transcendental presupposition.

In fact, it appears that it is only *within* this hierarchy of concepts that it is possible to cognitively perform (the various canonical forms) of syllogistic inference; consequently, it appears that the hierarchy of concepts functions as a presupposition of various types of inference structure (thus also of inferential performances). And since the exercise of determining judgment appears to be modeled on the cognitive performance of various forms of syllogistic inference, it would therefore appear that a feasible model of determining judgment presupposes an operative hierarchy of concepts. To put it another way, the hierarchy of concepts appears to be a formal apparatus or conceptual substrate on which a cognitive system's (specifically, reason's) inferential processes functionally depend.

As remarked, one key Appendix/FI link is an overlapping concern with rational systematicity and purposiveness. What, if any, is the link between rational systematicity (conceptualized on the model of a hierarchy of empirical concepts) and

purposiveness? Kant observes that nature appears to present its discrete physical phenomena in a way that is amenable to *monistic* (all-inclusive) hierarchical structuring. Since a hierarchy of concepts appears to be the condition under which (determining) judgment is possible at all, nature appears to present itself in a way that facilitates our cognitive consumption (= discursive representation) of its phenomena. The hierarchical ordering among a plurality of empirical concepts appears to be what Kant refers to as "logical" purposiveness. Such appears to consist in certain types of structured intra-hierarchical conceptual relationships. Since concepts have to be related as superclass to subclass *in order for* cognitive subsumption to be possible, the very *idea* of a hierarchical structure (of concepts/things) appears to be suited to our cognitive needs.[36]

However, the question that both the Appendix and the First Introduction seem to be responding to is this: What *guarantees* (or, more precisely, *under what scenario* could there be a guarantee such) that any empirical concept, or any

---

[36] In more contemporary terms, the sort of classificatory hierarchy Kant is concerned with is referred to as a "nested hierarchy," or a "containment hierarchy" of which there are two subtypes -- a subsumptive containment hierarchy and a compositional containment hierarchy. In a hierarchy of the first sort, the relation between supertype and subtype (parent and child) is the "is-a" relation (bird/gull = gull is-a bird). In the second type, the relation between supertype and subtype is defined as a mereological (part/whole) relation; subtypes are parts of a given supertype (subtype: hand; supertype: Arm). It is an open question as to *which type* of nested hierarchy Kant might be referring to in either the Appendix (first part) or in FI. Clearly, if Kant has the possibility conditions of (determining) judgment in mind, he must be conceptualizing the hierarchical system of concepts as a subsumptive containment hierarchy (defined by the 'is-a' relation). However, in the third critique, where Kant conceptualizes the totality of nature as a universally organized world-whole, it appears he would need to use a hierarchic system of nested material wholes (with increasingly larger scalar properties), one which is analogous to Russian matryoshka dolls (or Chinese Boxes). The 'is-a' relationship cannot be assimilated in all cases to the part-whole relationship. (E.g., A gull is a bird, but the hand/arm relation can't be similarly modeled on the is-a relation, unless you recast the 'is-a' relation as the 'is-a-part-of' relation.) In my research on Kant, I have not encountered any acknowledgement of the ambiguity

empirical law, that experientially comes down the pike is (necessarily) going to be positionable within *one* nomic hierarchy? What rules out the possibility that nature may get nomically *squirrelly* on us? What guarantees that material nature will cooperate with our cognitive need for this kind of systematicity? That such an ordering among our empirical concepts (of nature) *must* result is definitely not a proposition we can derive from experience; experience, Kant says, informs us only of what *is*, not what must be (or what ought to be). It appears to be a common issue (in both the Appendix and the First Introduction) how a presupposition concerning the possibility of cognitive judgment could also be viewed as a presupposition of the possibility of *physical nature*.

This issue over the possibility of empirical judgment (thus also empirical cognition) appears to introduce the need for a "transcendental principle of the purposiveness of nature" (TPPN, for short). Under the TPPN, nature is conceptualized as a "system of empirical cognition," (or of empirical laws), such that all laws of nature are specified so as to be positionable within the formal apparatus of a hierarchy (as required for cognitive judgment).[37] Conceptualized under this principle, *nature itself* would have an internal structure such that the potentially infinite number of (heterogeneous) natural kinds would be nomically interconnected

concerning the two different hierarchy models, let alone how this ambiguity could affect our construal of Kant's concept of rational systematicity and consequently our interpretation of the third critique.

[37] See FI, sections V-VI.

in a way that made them amenable to hierarchical arrangement.[38] Kant introduces *another* type of purposiveness, namely, that of "objective material purposiveness" (as exemplified both by individual natural organisms and their environmental systems). According to Kant the totality of nature's products constitute a *world-whole,* one conceptualized on the model of an individual organism (see §67).

But *in virtue of what* would all of nature's forms be so *suitably* interconnected? Here is where Kant's *physicoteleology* enters the story. Kant claims that natural organisms cannot be made "intelligible" at all except in teleological terms, that is, as the effects of intentional causation. Nature's suitability to the formal apparatus of a hierarchy depends on all natural forms being suitably interconnected; but a potentially infinite number of natural kinds would be so interconnected only under the hypothesis that they are *parts* of one integrated world-whole (conceptualized on the model of an individual organism). Further, the entirety of nature's forms would constitute a *part structure* (amenable to systematic arrangement) only if there were some single system-goal—or, an "absolute final end of nature" (AFE, for short)—in relation to which all of nature's forms were integrated. But there is a further necessary condition. Even assuming we can determine what the

---

[38] As Kant points out, to just *assume* that nature objectively conforms to our subjective cognitive needs amounts to making the following invalid inference:

What we *make* of nature (what we need nature to be)

What nature *is*.

The instructive point of displaying this faulty inference would presumably be to serve as a corrective against *projecting* our cognitive needs onto physical nature. This proves to be a controversial issue for textual reasons, one of which is that Kant *himself* uses the projective metaphor (in the Appendix).

AFE is, we would still need to hypothesize (or, rather, "postulate"[39]) the existence of a *supreme intelligence*, one that is powerful enough, smart enough, and motivated enough, to engineer and create the world-whole under the guidance of the AFE.

From this sketch, in rather broad strokes, it would appear that Kant's physicoteleology can be plausibly linked to his concerns about the conditions of empirical judgment. Let me summarize the main linkages made in this section so far:

> possibility of empirical judgment => nature's conformity to a hierarchy of concepts => objective purposiveness => physicoteleology.[40]

Prima facie, then, the TPJ's main themes do appear to exhibit a Kant-internal significance that can be legitimately viewed as *cognitive*. One major issue is whether purposiveness can retain this cognitive significance when viewed on the model of a regulative principle.

1.3.2.2 Does Purposiveness Have a Transcendental Status?

Because of the linkages mentioned above (see 1.3.2) and because of explicit statements Kant makes in the third critique (e.g., in §65), many commentators (notably, Paul Guyer) subsume the third critique's model of "reflecting judgment" under the concept of a *regulative* principle. Moreover since Guyer subsumes both the aesthetic and teleological judgments under the one model of reflecting judgment, the

---

[39] In the Doctrine of Method, Kant distinguishes postulates from hypotheses.

[40] Let occurrences of the symbol '=>' denote dependency relations, where the lexical item on the right flank is a necessary condition of the item on the left.

former are thereby conceptually subsumed under Kant's analysis of a regulative principle. Under a widely held view of the constitutive/regulative distinction (personified in Paul Guyer), regulative principles *do not* perform any *transcendental* function on Kant's model of human cognition (but instead have *merely* a methodological or heuristic significance). It follows (on this view) that the two main forms of reflecting judgment (the aesthetic and teleological) conceptually inherit that same methodological import.

One major issue engaging the second type of commentators under present consideration is whether regulative principles have a transcendental *status*. Do regulative principles perform any genuine *transcendental function* within our cognitive systems? Kant identifies the ideas of pure reason as having only a regulative use. But, as observed in the literature, both the Appendix to the Transcendental Dialectic and the third critique seem to give mixed messages on this issue.[41] The issue does not appear, however, to be *whether* the ideas of pure reason are to count as regulative (Kant explicitly says they are); rather ambiguity surrounds the precise *meaning-properties* of that assertion. Complicating the interpretative issue here is the coexistence of textual data that appear to make the prescriptive role assigned to the ideas of pure reason (as guide to the understanding) inconsistent with a "merely" regulative use. As remarked, some hold that a regulative construct has

[41] Paul Abela (2002), Rolf-Peter Horstmann (1989), and Reinhard Brandt (1989) all make this observation. Each presents a set of conflicting textual data regarding the functional role to be performed by the ideas of pure reason.

merely "methodological import," others argue for a conception of regulativity under which it retains some transcendental efficacy.[42]

A common attitude among this second subtype of cognition-oriented reading seems to be a tendency to engage the third critique from an angle where it is viewed to contribute *something affirmative* in response to the debate about the transcendental status of a regulative principle. Since rational systematicity depends on the use of "the ideas of pure reason" and since moreover these are characterized as regulative principles, the issue whether the latter can perform a genuine transcendental function seems to amount to whether rational structure is a genuine (or necessary) type of cognitive structure. On this issue Paul Abela[43] argues a claim in the affirmative. Others, like Rolf-Peter Horstmann[44], who credits the third critique's concept of purposiveness neither to reason nor to the understanding but rather to the power of (reflecting) judgment, nevertheless affirms the transcendental status of purposiveness

---

[42] On this issue Henry Allison claims that "[t]his regulative function is not incompatible with its transcendental status. The common view that it is stems from the erroneous assumption that "regulative" means something like "merely heuristic" or optional. This is erroneous because the whole purpose of the Appendix is to argue for the indispensability of reason and its ideas with respect to the empirical use of the understanding. To claim such indispensability is to claim a transcendental status, if not a constitutive function. And that is why the analysis culminates in the transcendental deduction of the ideas, which supposedly will complete the critical work of pure reason' (A670/B698)." Henry Allison, "Is the Critique of Judgment 'Post-Critical'?", in *The Reception of Kant's Critical Philosophy*, ed. Sally Sedgwick, (Cambridge University Press, 2000), 82.

[43] See Abela, 2002.

[44] Subsequent to providing a brief description of how "the idea of the purposiveness of nature is introduced into the *Critique of Judgment*," Horstmann writes: "All this description is intended to show is that Kant in the third Critique wants to convince us of two points. The first is that the concept of purposiveness is a transcendental principle that, because it cannot be regarded as being a principle of either the understanding or reason, must be accepted as a transcendental principle of the mental faculty of judgment in its reflective use. The second is that it is a necessary condition for the *unity* of our knowledge of experience as a *system* of empirical laws" (Horstmann, 164).

and, in addition, acknowledges it as "a necessary condition for the *unity* of our knowledge of experience as a *system* of empirical laws."

Reinhard Brandt acknowledges both that the ideas of pure reason are "indispensable elements of the possibility of experience,"[45] and claims, in addition, that there is a *continuity* between the concepts of purposiveness found in the Appendix to the Transcendental Dialectic and those found in the third critique.[46] Like Horstmann, Brandt reads Kant as denying (in the third critique, anyway) that "the principle of suitability or purposiveness of nature for our cognitive faculty" derives from reason. Brandt seems to be saying that the purposiveness going under the name of rational structure (in the Appendix) undergoes a *shift* in the third critique such that what was formerly credited to reason is later credited to the power of "reflecting judgment."[47] (Here I remain agnostic on the issue of such a shift.)[48] At

---

[45] Brandt states: " The *Critique* begins with the transcendental deduction of the concepts of space and time, continues with the deduction of the categories and the proofs of their associated principles, and culminates in the deduction of the ideas (see also A702). Intuition, concepts, and ideas [= the ideas of pure reason] are indispensable elements of the possibility of experience. Without the last, the acts of the understanding lack unity and direction; they would -- if they came about at all -- "grope" around and scatter in arbitrary formations. Without concepts, intuitions remain blind; without ideas, concepts are incoherent and useless" (Brandt, 178-79).

[46] See Brandt, 184-86.

[47] Brandt argues that the third critique's retrospective account of the program of the first critique in fact *distorts* the latter's Transcendental Dialectic. Under that (inaccurate) retrospective account, only the Transcendental Analytic is recognized as providing the transcendental conditions of experience.

[48] But in order to draw this conclusion, wouldn't the first and third critiques' conferral of transcendental status have to *corefer*? And in order for that to happen, wouldn't the cognitive structure which was credited to the power of (reflecting) judgment (in the third critique) have to be the same one that was credited to reason (in the first critique)? (There may be a problem of referential opacity here.) If so, it would appear that the third critique's concern with nature's systematicity (and its conformity to our cognitive need for a hierarchy of concepts) is, in fact, a concern with rational structure but under a different name.

any rate, Brandt later concludes that both the first and the third critiques "grant the status of a transcendental principle to the principle of the suitability or purposiveness of nature for our cognitive faculty; thus in this there is no incompatibility of the two works calling for further interpretation" (187).[49]

[49] Brandt concludes: "I hope to have shown with these short remarks that the *Critique of Pure Reason* as well as the *Critique of Judgment* grant the status of a transcendental principle to the principle of suitability or purposiveness of nature for our cognitive faculty; thus in this there is no incompatibility of the two works calling for further interpretation. Nevertheless there are, as we have seen, substantial shifts in the overall structure of the Kantian philosophy between 1781 and 1790 that lead to a far-reaching incongruence of some of its elements" (Brandt, 187).

Chapter Two

THE FUNCTIONAL VALUE OF THE IDEAS OF PURE REASON

> The most plausible and generous reading of Kant makes concepts information-processing *functions*—rule-governed procedures for organizing information received from other sources.
>
> —Donald Crawford[50]

2.0 Introduction

In the previous chapter my aim was, first, to map out some of the ways in which commentators have attempted to motivate Kant's third critique and, second, to locate myself within the proposed cartography. As remarked, my own view is to be located under the *second* type of cognition-oriented reading, which draws on the first critique's Transcendental Dialectic for the terms in which to state the third critique's architectonic significance. What is needed now, I think, is (what you might call) an "umbrella" chapter, one in which my own view is to be more fully developed and articulated and which provides a superstructure in which the various chapters of the present work can be contextualized. In the present chapter, the aim will be to present an interpretative framework, one that qualifies as a variant of the second type of cognition-oriented reading and, in addition, provides the Kant-internal means for viewing the concerns of the individual chapters as elaborations on various aspects of that one framework.

There is, however, a rather complicated set of issues to be discussed. First there is the issue over how, in what ways, the transcendental ideas contribute to the

goal of object-oriented representation. Under my analysis, the transcendental ideas operate as a system of cognitive ends, each of which contributing to the highest-order goal of representing a world-whole. However for reasons that will become clearer later on, the transcendental ideas[51] cannot perform their individual functions directly but rather require a mediating apparatus. Under my analysis, the transcendental ideas are able to perform their functions *via* reason's pursuit of the unconditioned, specifically, in the context of reason's performing (what Kant calls) a "regressive synthesis."[52]

Kant's view seems to be that each of the transcendental ideas represents a nonredundant means to pursue the *unconditioned*: the pursuit of a metaphysically simple substance (in the form of a transcendental self), the pursuit of the absolute boundary of the world, and finally the pursuit of the absolute completeness of all possible thought-content (thus all possible objects), considered as the underwriting ground of a kind of conceptual holism[53]--God, as a supreme intelligence, is the a priori postulate for an imponderable system of conceptual contents, one that underwrites the possibility of discursive thought and, in addition, acts as the

---

[50] Donald Crawford, "Kant's Theory of Creative Imagination," in *Kant's Critique of the Power of Judgment: Critical Essays*, ed. Paul Guyer (Rowman and Littlefield, 2003), 152..

[51] Or 't-ideas' for short.

[52] Regressive syntheses are performed under two directives. Here I use Michelle Grier's formulations: **"**P_1: Find for the conditioned knowledge given through the understanding the unconditioned whereby its unity is brought to completion. (A308/B364);" P_2: "If the condition is given, the whole series of conditions, subordinated to one another -- a series which is therefore itself unconditioned -- is likewise given, that is, is contained in the object and its connection. (A208/B364)." Michelle Grier, *Kant's Doctrine of Transcendental Illusion* (Cambridge University Press, 2001), 119, 122.

conceptual substrate for nature's nomic systematicity and all thinkable counterfactuals concerning nature.

Performing regressive syntheses means implementing a (certain type of) explanatory structure, one that is (or so I will argue) ultimately *teleological* in character. For present purposes, the basic idea seems to be that, in performing a regressive synthesis, concept-users undertake to *think* a rational relation between one object understood as the *conditioned* and another object (or set of objects) understood as the underwriting *conditions* for the former; in other words, the former is regarded as a *given datum* whereas the latter is regarded as a set of existence (or possibility) conditions. (See Diagram below.)

Diagram 2.0:

Regressive Synthesis	Computed As
"A Given Conditioned"	An empirical datum ("a given whole of intuition")
"The Conditions"	A set of possibility conditions (a set of underwriting parts)

Here a second issue arises. It is the over how reason's pursuit of the unconditioned (= its performing regressive syntheses) can be plausibly linked to the goal of object-oriented representation. And since, under my analysis, the transcendental ideas perform their functional roles by means of (or in the context of) reason's regressive syntheses, a third issue arises over how to conceptualize the link between the t-ideas and regressive syntheses. Here the concern is over how to model regressive syntheses in such a way so as to provide the terms in which the various functions of

[53] Here I agree with Graham Bird's analysis, namely, that the function of the Transcendental Idea(l), the God-idea, is supposed to ground the possibility of non-analytic conceptual necessity.

the t-ideas can be plausibly explicated; moreover, since the functions of the t-ideas are conceived as broadly contributing to the goal of object-oriented representation, it follows that the model of regressive syntheses has to be conceived so as to provide a suitable field of operation, one in which the t-ideas can be seen to function in the way proposed.

It would therefore appear that there are (at least) three different sorts of issue, which may be listed below as follows:

Diagram 2.0a:

Issue Set

1) How to link the transcendental ideas to the goal of object-oriented representation
2) How to link the goal of object-oriented representation to reason's pursuit of the unconditioned (via performing regressive syntheses)
3) How to link the transcendental ideas to reason's pursuit of the unconditioned (and by that means illuminate their cognitive function)

The ultimate aim is to motivate Kant's third critique and to do so within the conceptual framework proposed by the analyses of the issues listed above. And since, under my analysis, the functional value of the transcendental ideas is both *cognitively significant* and, in addition, to be explicated largely in the terms provided by the first critique's Dialectic, each of the three issues listed above represents a separate but necessary phase of a much larger project. However, due to the complexity of the subject matter, the focus of the present chapter is confined largely to an analysis of (1). In the final chapter, I discuss phases (2) and (3). But in order to get a feel for how these issues are linked conceptually, I offer a brief summary in the next section.

In the present chapter the aim is to show (or, at any rate, plausibly suggest) that the three classes of transcendental ideas present themselves as three orthogonal (nonredundant) means for achieving (theoretical) reason's highest-order end of representing a world. To that end, the task is to set up an interpretative framework, one which is adequately textually sensitive, in which the three types of transcendental ideas can plausibly be seen to perform these functions. This will require the analysis of a number of key texts in which Kant articulates his conception of (rational) systematicity and then showing how the transcendental ideas, as content-bearers of a rather unusual sort, can be conceptualized as the cognitive means reason uses to maximize systematicity.

2.1 Motivating Kant's Third Critique: The Mereocosmic[54] Angle

Kant's view seems to be that the transcendental ideas are to be used generally to promote rational systematicity. Accordingly, each of the three types of transcendental idea is supposed to do its part in contributing to the goal of maximizing systematicity. Furthermore if they are supposed to operate at the content-level of experience, then it seems to follow that they are supposed to contribute in some way to making the world's appearing (to our reason, anyway) as a *systemic whole*. In other words, under the injunction to maximize systematicity, we are (to put the point crudely) required to view the world *through* these ideas. Thus

[54] So far as I know, the term is my own. Kant's cosmology seems to exhibit a mereological dimension: the world is one (all-inclusive) whole -- a "world-whole" made up of parts (substances) that are connected in a causal structure. In order to capture this aspect of Kant's cosmology, I have renamed it 'mereocosmology'.

the transcendental ideas perform a cognitive function in that they are content-bearing entities whose function is to be intentionally directed at (or, at any rate, somehow brought to bear on) our representational field.

Since, under my analysis, the function of the t-ideas, considered as a system, are to contribute to the end of representing a world-whole, I conceptualize the imperative to maximize systematicity as an imperative to maximize mereological structure of a rational sort. (I say more about this later.) Each type of transcendental idea may, I suggest, be seen to maximize mereological structure at either of three distinguishable levels:

1) the level of individual objects (conceptualized on the model of wholes)

2) the level of individual structural complexes (ones made up of objects)

3) the level of structural complexes (made up of other structural complexes) and so on.

In all three levels (1-3) the objects of representation are to be modeled generally on the conceptualization of a *whole-entity*, one according to which a thing is semantically understood to be both a composite entity yet also a singular thing. Moreover, it is the object, considered as a whole-entity, that is subsequently identified as the end or target of composition, viz., that for the sake of which a set of underwriting parts are generated.

Let me explain. Reason needs a conceptual means by which to compute the difference between *object* and *structural complex*, even though all objects in empirical-phenomenal reality, being composites, will be *constituted* by structural

complexity. The system computes something as an singular object if it computed as a component part of a larger whole; but since every component part of a larger material whole is itself a composite entity, a singular object must, in addition, be represented as a structural complex; which is to say it must be representationally computed as a material thing in its own right. If the system[55] *aims* to represent a singular object, it must do so by representing a material composite as one thing -- a *whole*.[56] This is achieved however by reason's first being capable of viewing a material composite under a description (say, as an agent) where it (the material composite) can be semantically computed as a singular thing; second, reason must being able to think an explanatory relation between this single thing and a set of underwriting parts. But in order to do that, reason has to view that whole-entity as something that *prescribes itself* as the target of composition, that is, as an *natural end*.[57] According to Kant, reason can only grasp such a relation (between superstrate and substrate) in teleological terms, ones where a given whole-entity is viewed as the effect of agent causation.[58]

---

[55] The term 'system' will sometimes be short for 'human representational system'. Where the context leaves uncertainty as to what I mean, I will generally not opt for the abbreviation.

[56] In my research on Kant, I have found he acknowledges (at least) *three* possible ways to conceptualize a whole:

Diagram: Three Types of Whole

Faculty Affiliate	Operative Concept	Conception of a Whole
1) Sensible Intuition	Space (As Continuous Quantum)	A bounded region of space
2) Understanding	Matter (As Discrete Quantum)	A mereological sum of parts
3) Reason	End (As System-Goal)	A systemic whole

[57] As a relative final end to be precise. The concept of a natural end is a major construct of the (second half) of Kant's third critique. See §64-67 of the Analytic of Teleological Judgment.

[58] Or, in Kant's terms final causality.

In this context, we can, I suggest, reasonably hypothesize that each of the t-ideas performs some individual (and nonredundant) function for the sake of a shared system-goal. What would that shared objective be? I submit that (theoretical) reason's highest-order end is to represent a singular object, namely, *the world*. However since under Kant's analysis of the concept of a world in general, the world is a single all-inclusive whole, one consisting of a multitude of parts, reason's highest-order objective is subserved by a number of subfunctions, one being the injunction to represent *singular parts*, another being to connect these entities in a causal structure (for the sake of constructing larger structural complexes).

Here we see the functional value of a *subset* of the transcendental ideas, namely, the *cosmological* ideas. I submit that the cosmological ideas, considered as a system, provide a common field of operation, one in reference to which the functional roles of other two transcendental ideas (of self and God) can be plausibly explicated. Briefly, the transcendental idea deriving from rational psychology (namely, the idea of a transcendental I or self) provides a *model* for what is to count as a singular individual -- a substance conceptualized on the model of an agent (by analogy with ourselves). In doing so, it provides a rule for what is to count as one of the world's *parts*. The God-idea's function may be similarly explicated in reference to the representation of a world-whole, namely, as the ultimate ground of its possibility. Under the hypothesis that the entirety of nature is the *effect* of an intentional cause (= God), nature may be viewed as a systemic whole. Consequently, reason's speculative

interest in *intraphenomenal systematicity* may thereby be furthered for the sake of representing the world as one (necessarily unified) mereocosmic whole.

Finally, under my analysis, the successful performance of regressive syntheses contributes to the goal of object-oriented representation in at least two ways. First, regressive syntheses appear to *stabilize* (underwrite or ground) the cognitive representation[59] of a *boundary* or limit in spatiomaterial continua. Moreover, since it is material objects that (theoretical) reason is interested in representing and since, in addition, Kant evidently holds that the notion of a boundary is required for the representation of singular individuals in space, it would therefore appear that regressive syntheses ground the representation of objects (considered as individual whole-entities). Second, because reason is always under the "categorical intellectual imperative"[60] to represent the world-whole, it is therefore always under the imperative to utilize the on-going but partial materials of the understanding in order to approximate its intellectual representation of a structured whole, one that can never be fully represented in any one perceptual episode or in any finite series of such episodes. Thus, reason's regressive syntheses appear to provide (or, at any rate,

[59] This point seems to require some nuancing. Since the notion of a (determinate) spatial boundary is a prior condition under which an *singular* object may be represented at all, the regressive syntheses appear to take the appearance of a bounded region of (matter-filled) space as a sort of cognitive (or perceptual) datum and then proceed to specify (in experiential cognition) the conditions under which this datum is possible.

[60] The term is Henry Allison's (1983), one that is also co-opted by Michelle Grier (2001). I'm adopting the term primarily because it seems to be an accurate general description of the transcendental ideas under the prescriptive use Kant assigns to them. Beyond that, however, I do not claim any similarity between Allison's conceptualization of the transcendental ideas and my own. As to why the ideas of pure reason are referred to as "intellectual" imperatives, Susan Neiman makes the point succulently: "Reason (hence practice, reason's end) is reflective; its tasks require criticism and

reflect) the means for representing a cognitive structure, one that not only *contextualizes* the chronically partial perceptual episodes of our embodied cognitive systems but also *guides* the *use of* these episodes for the purpose of representing a hierarchic system of whole-objects.[61]

2.2 Reason's "Interest" in the Antinomies of Pure Reason

In the Antinomy of Pure Reason, Kant presents four antinomial conflicts of reason. The First Antinomy concerns whether the world had a beginning in time or has a determinate boundary; the Second Antinomy concerns whether the extended matter has simple parts or whether there are none; the Third Antinomy concerns whether appearances can be adequately explained "in accordance with the laws of nature" or whether "it is also necessary to assume another causality through freedom in order to explain them;" the Fourth Antinomy concerns whether there exists an absolutely necessary being, either as part of the world or outside it. In what follows I shall refer to each of these whether-formulations as an "antinomial issue," to distinguish them from the conflicting positions taken on them.

In the Antinomy of Pure Reason's Third Section, entitled "On the interest of reason in these conflicts," Kant affiliates the thesis and the antithesis with two philosophical positions, namely, that of the dogmatists and the empiricists. (See Diagram below.)

---

introspection. Reason is intellectual; its nature is to formulate ideas most distant from the senses." Susan Neiman, *The Unity of Reason* (Oxford University Press, 1994), 4-5.

[61] I discuss this in some detail in Chapter 11.

Diagram:

Standpoint	Asserts	Demo-Content
Dogmatists	Thesis	E.g., World has original cause (God)
Empiricists	Antithesis	E.g., World does not have original cause

The aim here is not to provide a detailed analysis of Kant's assessment of these positions.[62] Suffice it to say that Kant discusses the advantages of dogmatism and empiricism in reference to the four antinomial conflicts, and his evaluation proceeds along two dimensions of reason's interest in these conflicts, one practical, the other speculative. For instance Kant identifies reason's practical interest in the *thesis* as follows:

> First, a certain practical interest, in which every well-disposed person, once he understands its true advantage to him, heartily shares. That the world has a beginning, that my thinking self is of a simple and therefore incorruptible nature, that this self is likewise free and elevated above natural compulsion in its voluntary actions, and finally, that the whole order of things constituting the world descends from an original being, from which it borrows all its unity and purposive connectedness -- these are so many cornerstones of morality and religion. The antithesis robs us of all these supports, or at least seems to rob us of them.[63]

Here Kant claims that, from the standpoint of reason's *practical* interests, human reason should assert the thesis position (in regards to the four antinomial conflicts). Then Kant identifies reason's speculative interest in taking a pro-attitude toward the thesis position (along the four antinomial issues).

> Second, a speculative interest of reason is expressed on this side too. For if one assumes and employs the transcendental ideas in such a way, then one can

[62] For excellent analyses of the antinomies themselves see Michelle Grier (2001) and Graham Bird (2006).

[63] *CPuR,* A466/B494.

> grasp the whole chain of conditions fully *a priori* and comprehend the derivation of the conditioned, starting with the unconditioned, which the antithesis cannot do; this gives it [empiricism] a bad recommendation, since it can given no answers to questions about the conditions of their synthesis that do not leave something out, and with its answers further questions without any end are always left over.[64]

Kant's general aim the Third Section is to show that while, from a theoretical standpoint, reason has no more reason to accept the thesis than it does the antithesis, from a practical standpoint, it does. Notice above (in A467/B495) that Kant characterizes one of reason's interests as "speculative." It would seem that on the one hand the theses positions cannot legitimately to be regarded as possible objects of speculative cognition while on the other reason can evidently have a legitimate "speculative" interest in these positions. What is Kant up to here?

To use the theses positions for purposes of speculative *cognition* is to take the attitude concept-users have when operating under the intention to establish a *truth-relation* between a propositional content and (objective) reality. The general argument of the Antinomy of Pure Reason is however that the antinomial conflicts arise *precisely because* of the intention to establish a truth-relation between the represent*er* and the represent*ed* (where the latter is explicated as mind-independent reality). Kant's "solution" to the antinomial conflicts is, of course, the thesis of transcendental idealism. So it must be, I suggest, in this context (not in a realist one) that it is *okay* for reason to have a "speculative interest" (in the theses) and is thus something to be legitimately taken under consideration. But if that's so, then this

[64] *CPuR*, A467/B495, underscoring added.

would imply that the theses-positions were to be put to a *use* different from that of establishing their truth. What could this be?

In addition to the practical and the speculative dimensions of reason's interest in the antinomial issues, Kant appears to identify a *third*, namely, *architectonic*, dimension.

> Human reason is by nature architectonic, i.e., it considers all cognitions as belonging to a possible system, and hence it permits only such principles as at least do not render an intended cognition incapable of standing together with others in some system or other. But the propositions of the antithesis are of a kind that they do render the completion of an edifice of cognitions entirely impossible. According to them, beyond every state of the world there is another still older one; within every part there are always still more that are divisible; before every occurrence there was always another which was in turn generated by others; and in existence in general everything is always only conditioned, and no unconditioned or first existence is to be recognized. Thus since the antithesis nowhere allows a first or a starting point that would serve absolutely as the foundation for its building, a completed edifice of cognition on such presuppositions is entirely impossible. Hence the architectonic interest of reason (which is demanded not by empirical unity but by pure rational unity) carries with it a natural recommendation for the assertions of the thesis.[65]

Evidently reason's architectonic interest leads it to take a pro-attitude toward the thesis position in regards to each of the antinomial issues because the antitheses "render the completion of an edifice of cognitions entirely impossible."

I submit that the set of theses-positions constitutes a sort of *cognitive program*, one that is metaphysical (or speculative) in *content* but whose *use* is not; rather the use to which it is being put is clearly not to obtain speculative cognition. This metaphysical program can be summed up in Kant's physicoteleology, the idea

[65] *CPuR*, A474-75, underscoring added.

that the world is a single all-inclusive whole, one created by God, such that everything in it operates under natural laws and, finally, that human freedom is possible in nature because nature has intentionally been set up for the purpose[66] of moral enactment.--All of these propositions jointly form a *coherent standpoint*, one which cannot be *justified* by theoretical reason (under the norms of truth) but can be *adopted* by practical reason (as necessary postulates which serve its interests).

Even supposing all this is correct (or, at any rate, plausible), we still have not answered the real question, which is why reason would have a *need* for this cognitive program in the first place. This is equivalent to asking what the functional value of Kant's physicoteleology is. Kant's view seems to be that the propositional contents (of the theses) usefully provide a suitable conceptual framework, one in which reason's practical and architectonic interest in *intraphenomenal systematicity* can be served. Below (see 2.4) I will show (or, at any rate, plausibly suggest) that there is an ineliminable *mereological dimension* to Kant's account of systematicity, and I will use this to explicate reason's interest in it. Under my analysis reason's interest in systematicity amounts to an interest in maximizing mereological structure (of a certain sort). And reason is interested in accomplishing this because it is under the imperative to represent the world as one whole. (I discuss this in more detail in 2.5.) However, before I present my analysis of the *principles* that express reason's interest in systematicity, I want to first introduce the *ideas* whose use is to be guided by them.

[66] In the third critique Kant characterizes this end as the "absolute final end of nature."

2.3 Compiling A Dossier On the Transcendental Ideas

In the first critique's Dialectic, Kant introduces a rather unusual set of content-bearers, the "ideas of pure reason" (or "transcendental ideas"). There are three classes of these ideas. For present purposes, it suffices to refer to them as the ideas of the self (the transcendental I), the world-whole, and God. (See Diagram below).

Diagram: [Support A397]

Subject Matter	Type of Synthesis	Pseudo-Object
1) Psychology	The synthesis of the condition of thoughts in general	Self
2) Cosmology	The synthesis of the conditions of empirical thinking	World-Whole
3) Theology	The synthesis of the conditions of pure thinking	God

Kant claims that the transcendental ideas have both a negative and a positive use, or, more precisely, there is a right way and a wrong way for the ideas of pure reason to be *used*.

> The ideas of pure reason can never be dialectical in themselves; rather it is merely their misuse which brings it about that a deceptive illusion arises out of them .... Presumably, therefore, they have their good and purposive vocation in regard to the natural predisposition of our reason.[67]

The misuse of the transcendental ideas consists in putting these ideas to work in our representational systems for the purpose of obtaining "speculative cognition."[68] Speculative cognition of a type that purports to designate "transcendent" entities (namely, the self, world-whole, God), and so these ideas therefore tend to lead

---

[67] A669/B697, *CPuR*.

[68] Kant writes: "A theoretical cognition is **speculative** if it pertains to an object or concepts of an object to which one cannot attain in any experience. It is opposed to the cognition of nature, which pertains to no objects, or their predicates, except those that can be given in a possible experience" (*CPuR,* A635/B663).

cognitive consumers astray by getting them to think they can possess knowledge of objects that extend well beyond the limits of experiential cognition. (See B353 on the transcendent/transcendental distinction.) According to Kant, when the ideas of pure reason are misused (to serve reason's speculative interests), a "transcendental illusion" is the result.

Much has been said about the negative account of the ideas of pure reason. See, for instance, Graham Bird (2006) and, most notably, Michelle Grier (2001), who provide detailed analyses of the three types of transcendental idea and shows how their misuse lead to a transcendental illusion. So I'm going to say next to nothing about the misuse of the transcendental ideas. Instead, I want to discuss their positive function within our representational systems. Here my own account has benefited significantly from the analyses of Michelle Grier and Susan Neiman.

Kant says that the t-ideas have (indeed must have) a positive account, that they must play some important functional role in our representational life.

> Although we have to say of the transcendental concepts of reason, they are only ideas, we will by no means regard them as superfluous and nugatory. For even if no object can be determined through them, they can still, in a fundamental and unnoticed way, serve the understanding as a canon for its extended and self-consistent use, through which it cognizes no more object than it would cognize through its concepts, yet in this cognition it will be guided better and further.[69]

Kant certainly thought that the t-ideas performed a function within our representational systems: "They are not arbitrarily invented, but given as problems

---

[69] CPuR, A329.

by the nature of reason itself, and hence they relate necessarily to the entire use of the understanding" (cit ref). In the Fourth Section (of the Antinomy of Pure Reason) Kant argues that, since we did not (and cannot) derive the t-ideas from experience (inductively, because that would grossly distort their aprioristic content), reason must create these ideas, or, at any rate, these ideas must be inherent or built into our rational faculty (see A482-4/B510). Moreover, Kant argues that since there's no way concept-users could have derived these ideas experientially, these ideas must be inherent (or innate, but not exactly in the Cartesian sense). (On this point see A484.) Furthermore, if these ideas pose a problem for reason (which they do, as the antinomial conflicts illustrate), reason must contain the resources *in itself* for a solution to their possible use in our cognitive systems.

Kant evidently thinks that there not only is but there must be some assignable function to the t-ideas.[70]

> One cannot properly say that this idea the concept of an object, but only that of the thoroughgoing unity of these concepts, insofar as the idea serves the understanding as a rule. Such concepts of reason are not created by nature, rather we question nature according to these ideas, and we take our cognition to be defective as long as it is not adequate to them.[71]

Kant says or implies in various places that the use of these ideas are not to be

---

[70] Kant states: "Now we can place the result of the entire Transcendental Dialectic clearly before our eyes, and precisely determine the final aim of the ideas of pure reason, which become dialectical only through misunderstanding and carelessness. Pure reason is in fact concerned with nothing but itself, and it can have no other concern, because what is given to it is not objects to be unified for the concept of experience, but cognition of understanding to be unified for the concept of reason, i.e., to be connected in one principle" (*CPuR*, A680/B708).

[71] *CPuR*, A646.

modeled on the use concepts (or content-bearers) have when they are put to a cognitive use, that is, for purposes of subsuming objects under concepts (as their extension).[72] Kant seems to be saying that the t-ideas have only a *prescriptive* use. On the general functional value of ideas Kant says that they

> "perform a wholly unique service, which goes unrecognized precisely because it is judged according to empirical rules, whose validity as principles should be cancelled by those very ideas. For when we consider nature, experience provides us with the rule and is the source of truth; but with respect to moral laws, experience is (alas!) the mother of illusion, and it is most reprehensible to derive the laws concerning what I ought to do from what is done, or to want to limit it to that.[73]

In first section of On Ideas In General, Kant acknowledges the merits of Platonic ideas, in the case of morality, and, in addition, says that the Platonic idea is one that "deserves respect and imitation."[74] Kant's attitude toward Platonic ideas is evidently extended to the products of nature:

> But Plato was right to see clear proofs of an origin in ideas not only where human reason shows true causality, and where ideas become efficient causes (of actions and their objects), namely in morality, but also in regard to nature itself. A plant, an animal, the regular arrangement of the world's structure (presumably thus also the whole order of nature) -- these show clearly that they are possible only according to ideas; although no individual creature, under the individual conditions of its existence, is congruent with the idea of what is most perfect of its species (as little as a human being is congruent with

---

[72] "By the idea of a necessary concept of reason, I understand one to which no congruent object can be given in the senses. Thus the pure concepts of reason we have just examined are **transcendental ideas**. They are concepts of pure reason; for they consider all experiential cognition as determined through an absolute totality of conditions" (*CPuR*).

[73] *CPuR,* A319

[74] Kant writes: "Plato noted very well that our power of cognition feels a far higher need than that of merely spelling out appearances according to a synthetic unity in order to be able to read them as experience, and that our reason naturally exalts itself to cognitions that go much too far for any object that experience can given ever to be congruent, but that nonetheless have their reality and are by no means merely figments of the brain" (*CPuR,* B371).

> the idea of humanity that he bears in his soul as the archetype of his actions), nevertheless these ideas are in the highest understanding individual, unalterable, thoroughly determined, and the original causes of things, and only the whole of its combination in the totality of a world is fully adequate to its idea. If we abstract from its exaggerated expression, then the philosopher's spiritual flight, which considers the physical copies in the world order, and then ascends to their architectonic connection according to ends, i.e., ideas, is an endeavor that deserves respect and imitation.[75]

Natural systems such as organisms are evidently possible only on the basis of ideas. However, notice that it isn't just individual (types of) organisms, but "the regular arrangement of the world's structure (presumably thus also the whole order of nature)" that depend on the use of ideas. Notice that Kant specifies, in this context, part of the content of an idea as "the idea of what is most perfect of its species." Thus Kant says: "A plant, an animal, the regular arrangement of the world's structure (presumably thus also the whole order of nature) -- these show clearly that they are possible only according to ideas."

Kant, in addition, links the use of the transcendental ideas to reason's interest in the concept of a *maximum*:

> When we call something an idea, we are saying a great deal about its object (as an object of pure understanding), but just for this reason very little about the subject (i.e., in respect of its actuality under empirical conditions), since, as the concept of a maximum, nothing congruent to it can ever be given *in concreto*.[76]

Let us summarize the items in the dossier so far compiled on the transcendental ideas: First, they are prescriptive (not descriptive); that, if the objects that they are applied to

[75] *CPuR*, B374-75, emp. added.

[76] CPuR, B384.

(their referents) only approximately conform to the "object in the idea" (because no object of experience is ever "congruent" to them); second, the t-ideas seem to *ground* certain sorts of normative judgments (in morality, say). Notice also that Kant thinks that the ideas of pure reason can have an application in natural science. For instance, he seems to think that the grasping of natural organisms, as natural systems, requires the hypothesis of a corresponding idea, one that (in the third critique) functions as a "natural end." Third, Kant's view seems to be that each t-idea expresses a conception of "perfection" (completeness) or, as we have seen, a particular way of conceptualizing a maximum. In other places, Kant's seems to think that the three types of transcendental idea express three distinct ways of conceptualizing "absolute unity" (see A324-7, A334-5).

2.4 Modeling the Use of the Transcendental Ideas on Practical Reason

There is some consensus among commentators regarding Kant's positive account of the t-ideas, one according to which they play some functional role in our representational systems. Most commentators seem to think that, whatever their function is, the t-ideas' functional role has to be explicated in a way that acknowledges both a subjective status as well as performing a prescriptive role, as opposed to the one that these ideas have when they are misused for the purposes of speculative cognition. Susan Neiman (1994) is among the most explicit and articulate in recognizing the directive import of the t-ideas:

> The positing of an end is equivalent to a demand for its realization, and ideas of reason simply are ends. This is what is meant by Kant's statement that they

> are not items of knowledge but bearers of guidance (A827/B855). Ideas do not first tell us about the world and then tell us what to do about it. They do not tell us about the world at all but are purely subjective, concerning how we are to behave.[77]

According to Neiman, the directive import of the transcendental ideas -- their operating as "bearers of guidance" -- is *a function of* there being *ends* of reason. Neiman makes this somewhat more explicit elsewhere:

> An end is necessarily something beyond that which is already given. In proposing ends, therefore, reason declares its right to make demands upon experience in a manner forbidden to the understanding. The concepts of the understanding give order to experience; the principles of reason are the standard by which it is judged. In a conflict between the two, it is not the principles which require revision, but experience which is inadequate to the principles of reason.[78]

The basic idea here seems to be that, when conceptualized as an end or goal, the transcendental ideas function prescriptively and when they do they direct. Sorting out who is the *director* and who the *directee* is however not my present concern (although it is implied here).[79] The point is rather that the prescriptivity of the t-ideas seems to be a status derived from a conceptual framework that borrows essentially from the faculty of practical (not theoretical) reason; specifically, the normative content recognized in the t-ideas seems to derive from a conceptualization under which they are certain (very general sorts of) goal-representation; which is to say that their normative content appears to derive from the structure of an intentional system's *goal-directedness*. By being intended, the intentional object of the agent's goal-

[77] Neiman, 69.

[78] Neiman, 88.

[79] Reason is the director, understanding the directee. I discuss this more in 11.1.

representation (which presumably represents a currently nonexistent object or state-of-affairs) derives a normative status so that it is viewed as *that which ought to be*.

Kant explicitly acknowledges that the transcendental ideas have a use (or "vocation") within human representational systems (see A669/B697). However, since their use or function is not designative (meaning that they are not to be used for speculative cognition), these ideas are conceptualized in reference to practical, not theoretical, reason; which is to say that not only are these ideas to be viewed as prescriptive (not descriptive), they are also more importantly to be conceptualized in terms of the *structure* of practical reason, meaning that they are to be viewed as certain sorts of *ends*. That is, if reason's use of the transcendental ideas is to be modeled on practical reason's use of its content-bearing entities (namely, as the agent's goal-representations), then it seems to follow that the transcendental ideas are to be similarly modeled as *cognitive ends*.

This suggests a line on how to conceptualize the intentional object (what Kant calls the "object in the idea") of each of three types of transcendental ideas: each may be viewed as the *target* of a type of object-oriented intentionality, which, because it is modeled after practical reason's, must be viewed as the *goal* of cognitive activity, one that the mind actively undertakes to realize. Michelle Grier seems to be making a similar point:

> The position in the *Critique* seeks both to undermine the attempt to use pure, speculative reason as a source of a priori knowledge about objects, and yet also to establish its necessary subjective function in securing systematic unity and completion of knowledge. Embedded in this view is the suggestion that what ultimately "counts" as knowledge is what conforms to the interests and goals posited by reason. Each of these features of reason is successfully tied

> together in Kant's characterization of the (subjectively necessary) ideas of reason as "focal points" posited as regulative devices for guiding the project of knowledge acquisition.[80]

2.5 A Kantian Model of Rational Systematicity

Above a dossier was compiled on the transcendental ideas, one according to which the t-ideas are viewed as cognitive ends. Kant says that these ideas are to be used according to "regulative" principles, so the t-ideas must not be *functionally equivalent* to the principles that guide their use. In this section, the aim is to show (or, at any rate, plausibly suggest) that Kant has an over-arching principle that he intends to guide the use of the t-ideas, one which sets reason the goal of maximizing systematicity (under a certain conception). I want to suggest that this principle exhibits a dimension that is not sufficiently acknowledged or developed in the secondary literature.

2.5.1 Rational Structure (Systematicity) Is Essentially Goal-Directed

The essential characteristic of *rational* cognitive structure (or, 'rational structure', for short[81]) is *systematicity*. Two questions arise here: (1) What does rational systematicity *consist in*? (2) Under some conceptualization of what it is, what *grounds* (or explanatorily underwrites) rational systematicity?

With regard to the first question Kant appears to think conceive of rational systematicity in terms of *mereological structure*. My claim is that there is a type of

[80] Grier, 94, emp. added.

regressive syntheses, one that reason performs in its use of the cosmological ideas, which is essentially mereological; moreover, because reason's interest in performing regressive syntheses is, at least in part, to maximize systematicity, there must be a conceptualization of systematicity that is *functionally suited* to mereologically-oriented regressive syntheses.

What makes mereological structure *rational* structure? Mereological structure evidently counts as *rational* when the *unity* among a set of parts is conceptualized under, or on the condition of, the concept (and postulation of) an *end* or *goal*.[82] In the Doctrine On Method Kant articulates his conception of rational systematicity most explicitly:

> Under the government of reason our cognitions cannot at all constitute a rhapsody but must constitute a system, in which alone they can support and advance its essential ends. I understand by a system, however, the unity of the manifold cognitions under one idea. This is the rational concept of the form of a whole, insofar as through this the domain of the manifold as well as the position of the parts with respect to each other is determined *a priori*. The scientific rational concept thus contains the end and the form of the whole that is congruent with it. The unity of the end, to which all parts are related and in the idea of which they are also related to each other, allows the absence of any part to be noticed in our knowledge of the rest, and there can be no contingent addition or undetermined magnitude of perfection that does not have its boundaries determined *a priori*. The whole is therefore articulated (*articulatio*) and not heaped together (*coacervatio*); it can, to be sure, grow internally (*per intus susceptionem* [= from an internal cause]) but not externally (*per appositionem* [= by juxtaposition]), like an animal body,

---

[81] I follow Paul Abela's terminology here.

[82] This is implied in the first part of the Appendix, where the principle of rational unity is formulated as maximizing mereological structure (among cognitions) for the sake of cognizing a whole—one where the parts are dependent on the whole (not the reverse). This suggests that the parts are conceptualized in reference to some prior idea or conception of a whole (which is characteristic of Kant's model of intentional causation).

> whose growth does not add a limb but rather makes each limb stronger and fitter for its end without any alteration of proportion.[83]

In the Appendix (first part) systematicity deriving from the faculty of reason appears to be closely linked with the representation of integrated *wholes*.[84] However, in the second part of the Appendix, the concern with systematicity (rational structure) occurs in a context where reason has been assigned the job of guiding the understanding in order to maximize its empirical use. What does the maximization of the *empirical use* of reason consist in? In the Appendix (second part) maximization appears to mean (or, at any rate, involve) discursively knitting together the individual cognitions of the understanding (here modeled on perceptual episodes) for the sake of representing a *systemic whole*.[85]

2.5.2 Rational Systematicity As the Maximization of Mereological Structure

In the Appendix (first part) to the Transcendental Dialectic Kant states:

> If we survey the cognitions of our understanding in their entire range, then we find that what reason quite uniquely prescribes and seeks to bring about concerning it is the systematic in cognition, i.e., its interconnection based on one principle. This unity of reason always presupposes an idea, namely that

---

[83] *CPuR*, A832-33.

[84] Cf. CPuR, A645-46. It's not clear, however, whether the systemic wholes reason is supposed to make possible are composed of *de re* elements or *de dicto* components; that is, it's ambiguous in the text whether the systemic wholes are composed of propositions and/or theories or whether they are composed of *entities*. The disjunction is not exclusive, since presumably if rational structure yields de dicto unity (unity among our theoretical propositions or theories or cognitions), then, given that at least some of these have *empirical reference relations*, that rational structure could be extended to empirical objects.

[85] In view of the fact that we may be talking about perceptual episodes (as the product of categorially-guided transcendental syntheses of the understanding), rational structure would seem to consist in being able to *think* mereological relations among the individual entities (presumably substances) that are presented in my perceptual experiences.

> of the form of a whole of cognition, which precedes the determinate cognition of the parts and contains the conditions for determining a priori the place of each part and its relation to the others. Accordingly, this idea postulates complete unity of the understanding's cognitions, through which this cognition comes to be not merely a contingent aggregate but a system interconnected with necessary laws.[86]

There are a number of key points to make about this important text. The first thing to note is the *plurality* of theoretical constructs Kant is implementing here. The apparatus that Kant sets up in the Appendix (and elsewhere in the Transcendental Dialectic) includes *only one* principle and a plurality of "ideas" (the latter have technical meaning for Kant). There is the single "principle" (which is being stated above) that prescribes a general (apical) *system*[87]*-goal*, namely, to maximize systematicity, where that means (or, at the very least, involves) the maximization of mereological structure. For Kant, there are essentially two types of mereological structure, one where the whole is dependent on the parts (mere aggregative wholes) and one where the parts are dependent on the whole (which yields systematic part structure). These two sorts of wholes, and their mode of construction, are affiliated with different cognitive faculties. (See Diagram below.)

Diagram 2.5A:

Faculty Affiliate	Mode of Construction	Causal Dependency	Whole-Type
Understanding	From Parts *to* Whole	Whole-on-Part	Aggregative
Reason	From Whole *to* Parts	Part-On-Whole	Systemic

[86] *CPuR*, A645-6/B673-4.

[87] The term ‘system’ is short for 'representational system' or 'cognitive system'.

Notice that the Appendix (A646) principle is prescribing (as a general system-goal)[88], the maximization of mereological structure of the rational type, that is, of systemic wholes whose part structures exhibit *part-on-whole dependency*.

Let me elaborate briefly on the difference between these two modes of composition. In the (outer) empirical-phenomenal domain, objects are to be conceived as composite entities. Viewed as such, the construction of an object always consists generally in endowing it with a part structure; furthermore this merelogically-conceived sort of cognitive construction can proceed in either of two distinct directions: it can proceed from *the parts up* -- that is, from the parts *to* the concrete constructed whole, in which case you have a mere aggregation of parts (as opposed to a system); or it can proceed *from* the whole downwards to a determination (specification) of the parts.

The former, a condition under which phenomenal objects are mathematizable, is in fact an a priori rule derived from the Axioms of Intuition (and is valid for all categorially-determined constructions performed by the understanding), whereas the latter procedure (which represents what I call part-on-whole dependency) is distinctive of intentional causation, (and is affiliated with reason, *not* with the understanding). Under the latter procedure the production of a set of parts is *guided by* a prior idea or conception of the whole to be produced.[89] Because the intended

---

[88] This implies that Kant views the human mind under a function-analytic model, which is to say that he views the various faculties of the human mind to constitute a system. There are various texts where Kant explicitly models the mind's internal structure on the model of individual organisms (see A474-75 and most explicitly at A832-33).

whole is understood to be guided by a prior conception of *what it is supposed to be* (even where this is grasped in hyperabstract terms), the parts are to be viewed as a set of means, ones which were specifically created in order to realize a given *end*, namely, the one embodied in the structured whole.

> Now if we consider a material whole, as far as its form is concerned, as a product of the parts and of their forces and their capacity to combine by themselves (including as parts other materials that they add to themselves) we represent a mechanical kind of generation. But from this there arises no concept of a whole as an end, whose internal possibility presupposes throughout the idea of a whole on which even the constitution and mode of action of the parts depends, which is just how must represent an organized body.[90]

It is important, for understanding the role of the third critique, to acknowledge that part-on-whole dependency is a characteristic mark of intentional production. I repeat: the feature of part-on-whole dependency (or whole priority) is, as it were, the *signature* (or indicant) of particular type of causality, namely, *final causality*.[91] (See Diagram below.)

Diagram 2.5B:

Faculty Affiliate	Explanatory Norm	Causality Type	Whole-Type
Understanding	Mechanistic	Efficient	Aggregative
Reason	Teleological	Final	Systemic

[89] In *OP* Kant writes: "For, the possibility of an organic body (that is, a body each of whose parts is there for the sake of the other, or which is so formed that the possibility of the parts and the form of their inner relations emerge only from its concept -- a body which is thus only possible through purposes, which presupposes an immaterial principle which forms this substance either mediately or immediately) produces a teleological principle of the continuation of kinds and individuals [which] can be thought as all-governing and everlasting with respect to species [*breaks off*]."

[90] *CPJ*, §77: 5:408-9, underscoring added.

[91] Kant makes this most explicit in the third critique, specifically, §77.

According to Kant natural products that exhibit part-on-whole dependency (e.g., natural organisms) must be understood (= can be made "intelligible") only under the hypothesis that they are the effects of an intelligent cause. What this means is that the parts themselves owe their identity and individuation to a prior *idea* or *conception* of the whole, one that was intended for production. Because, on this hypothesis, the parts are causally dependent on a prior *idea* of a whole -- because, in other words, they were created *for the sake of* composing the whole represented in that idea -- the identity and individuation of the parts are conceptually dependent on that idea. Consequently, because the whole is the *target* (or scopus) of composition, the parts stand in a normative (read: functional) relation to the whole in that they, as parts, are *supposed to make it possible.*

Natural organisms, for instance, appear to be *rationally significant* in that they appear to model the requirement of rational systematicity *in propria persona*:

> One may define it [concept of organic body], firstly, as follows: 'Such that each of its parts, within a whole, is there for the sake of the other,' and, in this case, the explanation clearly indicates *purposes* (*causae finales*). Secondly, however, one can also give as its definition: *'An organic body is that, in which the idea of the whole precedes the possibility of its parts, with respect to its moving forces.'* (*causae efficientes*).[92]

Notice there is reference to an "idea" here. Viewing a set of parts to exhibit part-on-whole dependency means computing those parts as integrated under a system of functional relationships, one whose highest-order goal is the composition of the

[92] *OP*: 22:548-59.

particular structured whole. We should therefore expect the part structures of systemic wholes to exhibit *purposiveness* in their internal composition.[93] However in the present context, the important point is that the *one principle* (in A645/B673) is supposed to *guide* the use of *all* the transcendental ideas. Moreover, in light of the principle's prescription to maximize systematicity, where that evidently means *maximizing mereological structure*, each of the three classes of transcendental ideas can therefore be understood to work together as three (nonredundant) ways of contributing to the general goal of constructing one systemic whole -- *the world*.

2.6 Kant's Precritical Cosmology And The Ideas of Pure Reason

Kant is explicit in his characterization of the three *classes* of transcendental ideas (not merely the subset of cosmological ideas) as constituting a system.[94] In what sense do the t-ideas constitute and operate as a system? How does this system function and to what end or purpose? What is the system meant to *do*? And what does this cognitive systematicity consist in? The aim is now to present a conceptual framework, one in which the t-ideas can be brought to bear on our representational life and in terms of which they can be seen to play some plausible functional role.

---

[93] In *OP*, Kant writes: "There is no spontaneity in the organization of matter but only receptivity from an immaterial principle of the formation of matter into bodies, which indicates [geht auf] the universe, and contains a thoroughgoing relation of means to ends. An understanding (which, however, is not a world-soul) [is] the principle *of the system, not a principle of aggregation*" (*OP*: 22:78, italics added).

[94] In the first critique, Kant writes: "Finally, we come to be aware that a certain connection and unity showing itself among the transcendental ideas themselves and that pure reason by means of it brings all its cognitions into a system. To progress from the cognition of oneself (of the soul) to cognition of the world and, by means of this, to the original being, is so natural that this progression appears similar to the logical advance of reason from premises to a conclusion" (*CPuR*, B394-95).

Then, the task is to show, ultimately, how the third critique may be seen to introduce innovations that complement or enhances that framework.[95]

Kant's precritical cosmology clearly exhibits a *mereological* dimension. The mereological dimension of his cosmology is made most explicit in the *Inaugural Dissertation* ('ID', for short), specifically in his analysis of the concept of a world in general. (See Diagram below.) Under that analysis the concept of a world has three conceptual components. The world is analyzed into matter (parts), form (relational structure), and absolute completeness. Kant identifies the world's parts as substances. With regard to form, Kant distinguishes two types -- sensible and intelligible. Under 'sensible' form Kant subsumes space and time (which are subjective and ideal); under "intelligible" form, Kant subsumes a particular type of causal structure, namely, reciprocal interaction.

Diagram 2.6A: Kant's *ID* Analysis of the Concept of a World

Terminology	Conceptual Components
Matter	Parts (Substances)
Form	Relational (Causal) Structure
Entirety	Completeness (Absolute)

In the first critique, particularly in its Transcendental Dialectic, Kant introduces what he calls "the ideas of pure reason," or the "transcendental ideas."[96] There are three

[95] Allison writes: "The question is not whether there are any significant innovations or developments in the third *Critique*. I think it obvious that there are. . . . At issue is only whether the *Critique of Judgment* contains something like an abandonment of the basic commitments and principles of the first *Critique*. I shall argue that it does not and that in the third *Critique* Kant is best seen as building upon rather that attempting to reconstruct his original "critical" edifice." Henry Allison, "Is the Critique of Judgment 'Post-Critical'?", in *The Reception of Kant's Critical Philosophy* (Cambridge University Press), 79.

[96] Kant writes: "Now what is universal in every relation that our representation can have is 1) the relation to the subject, 2) the relation to objects, and indeed either as appearances, or as objects of

classes of transcendental idea, each referring to a corresponding subject matter: psychology, cosmology, and theology.[97] Being content-bearing entities, each (class of) transcendental idea has its own characteristic intentional object (what the idea is an idea *of*). (See Diagram 2.6B below.) Notice the striking similarity between the ID analysis of the concept of a world in general and the three classes of transcendental idea.

Diagram 2.6B: [Support A397]

Subject Matter	Type of Synthesis	Pseudo-Object
1) Psychology	The synthesis of the condition of thoughts in general	Self
2) Cosmology	The synthesis of the conditions of empirical thinking	World-Whole
3) Theology	The synthesis of the conditions of pure thinking	God

Let me point out two important dimensions along which the ID analysis and the list of transcendental ideas are similar. First, notice that the members of the two sets of items are very similar. In the *ID* analysis, the world's parts are substances; moreover, it is clear that Kant very early on conceptualized substances on the model of agents and that he held that the idea of a substance was ultimately derived from our subjective experience of moral agency. Notice, also, the reference to causal structure;

---

thinking in general. If we combine this subdivision with the above division, then all the relation of representations of which we can make either a concept or an idea are of three sorts: 1) the relation to the subject, 2) to the manifold of the object in appearances, and 3) to all things in general" (*CPuR*, A334/B391).

[97] Kant writes: "Now all pure concepts have to do generally with the synthetic unity of representations, but concepts of pure reason (transcendental ideas) have to do with the unconditioned synthetic unity of all conditions in general. Consequently, all transcendental ideas will be brought **under three classes**, of which the **first** contains the absolute (unconditioned) **unity** of the **thinking subject**; the **second** the absolute **unity** of the **series** of **conditions of appearance**, the **third** the absolute **unity** of the **condition of all objects of thought** in general" (*CPuR*, A334/B391). Elsewhere Kant states: "The thinking subject is the object of **psychology**, the sum total of all appearances (the world) is the object of **cosmology**, and the thing that contains the supreme condition of the possibility of everything that can be thought (the being of all beings) is the object of **theology**" (*CPuR*, A334/B391).

in ID this is conceptualized under the idea of "form" (either 'sensible' or 'intelligible'); in the first critique, the causal structure (as viewed by reason, anyway) is understood as a 'series of conditions'. Reason is (according to Kant) chronically in pursuit of a set of *conditions* for an (empirically) given *conditioned* (see B436-39); consequently, the whole of nature is the sum total of these regressive syntheses (B438-39).

Second, notice that both in the *ID* analysis and in the system of transcendental ideas, the members appear to differ with respect to their comparative *scalar* properties (the difference in "size" or magnitude). In the *ID* analysis this is most easy to see, since substances are conceived as parts -- *form* as the causal structure that unites them, and *absolute entirety* the requirement that makes them all one single world. Similarly with the set of transcendental ideas. The list proceeds (quantitatively) from substances (psychology) to larger structural complexes (ultimately, the world's entire causal structure) to God (who personifies absolutely all reality, including but not limited to that of the world-whole). Admittedly Kant's *ID* analysis of the concept of a world includes only parts, form, and absolute entirety; God is, however, not explicitly included in his *ID* analysans. But God (as designer/creator) is very much present in *ID's* physicoteleology (see ID 's §16). God, as underwriting *ground*, figures in *ID's* metaphysical explanation of the world-whole.

2.7 Instituting Representation: Setting Up the Rules For What Counts As an Object

In the Appendix (second part) Kant notes that each of the three types of transcendental idea contains an 'object' (what he calls the 'object in the idea').[98] In more contemporary terms, 'the object in the idea' would refer to the "intentional object." But, as Robert Brandom notes, the term 'intentional object' is ambiguous in that it can be understood to have either an intensional or extensional meaning.[99] Understood intensionally, the intentional object of an idea is the object that the idea is an idea *of* (what it purports to represent, even though there may in fact be no existing referent corresponding to this idea). Understood extensionally, however, 'intentional object' refers to the objective referent of the idea.

Kant goes to considerable trouble to show that these ideas cannot be used for the purpose of obtaining speculative knowledge. Since according to Kant no objects of experiential cognition are ever "congruent" with a transcendental idea (since, in other words, no object of experience can be viewed as a concrete instance of these ideas), Kant's interest in the intentional object ('the object in the idea') of the transcendental ideas must express an interest in their intentional objects not in the extensional but rather in the intensional sense. In other words, Kant's epistemology

[98] In the Appendix (second part) Kant says: "It makes a big difference whether something is given to my reason as **an object absolutely** or is given only as an **object in the idea**. In the first case my concepts go as far as determining the object; but in the second, there is really only a schema for which no object is given, not even hypothetically, but which serves only to represent other objects to us, in accordance with their systematic unity, by means of the relation to this idea, hence to represent these objects indirectly" (*CPuR*, A671/B699).

[99] Actually, Brandom puts the point by observing two senses of 'represents'. Here he credits John Searle. See Brandom's *Making It Explicit* (Harvard University Press), 70-71.

may rule out (in his own eyes) the possibility of obtaining speculative knowledge in regards to any one the t-ideas (self, world, God), but Kant's interest in the t-ideas seems predicated on the acknowledgement of their status as content-bearing entities (of a rather unique sort). Moreover, in view of the fact that Kant's explicit intention in the Appendix (second part) is to provide a deduction for the t-ideas (one which he characterizes as transcendental[100]), there must be something about them (and their intentional objects) that Kant thinks is indispensable to the functioning of our representational systems.[101]

Notice (in the diagram above) that 'absolute unity' is *calibrated* to each of these three ideas. The transcendental ideas' intentional objects represent three distinct ways of conceiving absolute unity. Each "object in the idea" (of self, world, God) represents a different way (and scale) for conceiving absolute unity. In this way, I suggest, each of the three types of transcendental idea models what is to *count* as an 'object' at that level. For Kant absolute unity seems to be a way for human cognitive systems to conceive a thing's individuality or singularity. Kant makes this fairly

---

[100] Kant states: "And this is the transcendental deduction of all the ideas of speculative reason, not as **constitutive** principles for the extension of cognition to more objects than experience can given, but as **regulative** principles for the systematic unity of the manifold of empirical cognition in general through which this cognition, within its boundaries, is cultivated and corrected more than could happen without such ideas, through the mere use of the principles of the understanding" (*CPuR*, A671/B699, emp. added).

[101] On this point I agree with Henry Allison. Allison claims that the "regulative function is not incompatible with its transcendental status. The common view that it is stems from the erroneous assumption that "regulative" means something like "merely heuristic" or optional. This is erroneous because the whole purpose of the Appendix is to argue for the indispensability of reason and its ideas with respect to the empirical use of the understanding. To claim such indispensability is to claim a transcendental status, if not a constitutive function. And that is why the analysis culminates in the transcendental deduction of the ideas, which supposedly "will complete the critical work of pure reason" (A670/B698)." Henry Allison, "Is Critique of Judgment 'Post-Critical'?," 82, emp. added.

explicit in his transcendental deductions (where the transcendental self is conceptualized as a 'necessary synthetic unity of apperception'). The transcendental subject of apperception is that *in virtue of which* a plurality of mental states can be viewed as the states of one subject, but the phenomenon *for which* it is the hypothesized ground is the empirical "me" considered as one temporally-successive but absolutely unified phenomenal consciousness.

The idea of a transcendental subject (the I) appears to function as a principle of individuation. Let me explain. The transcendental I is not confined to any one of my representational states nor to any finite series of such states; it is the a priori presupposition under which successive mental states can be thought of as the states of *one* psychological subject (namely, me). It is in virtue of the transcendental I (which is necessarily singular), that a *series* of internal states can nonetheless be viewed as *one* temporally extended phenomenal consciousness. Phenomenal consciousness possesses absolute unity only on the condition that every state that is possible for me (every state that can count as mine) is also be a state to which *I* can attach the 'I think'. In order for this condition to be met, we have to postulate that there is an 'I' and that it is a numerically singular entity. Since the 'I' is necessarily singular, multiple states (of which I may be cross-temporally aware) are necessarily unified in virtue of a shared relation to this singular 'I'. The result is a temporally extended (but necessarily unified) phenomenal consciousness.

However in view of the fact that Kant denies the idea of a transcendental subject can be made to serve the interests of speculative cognition, Kant would

probably reject thinking of the awareness of the I's absolute unity in epistemic terms, namely, as *knowledge of* some real metaphysically simple entity (my noumenal-transcendental substrate). To block such a speculative use is the whole enterprise of the Paralogisms (which I cannot discuss here). So it is light of this anti-speculative (or "critical") attitude that we must make sense of the functional value of the absolute unity exhibited in the three types of transcendental idea (and their three distinct types of intentional object). Since the self-idea is not to be used for purposes of cognition, the point of its use is not to establish objective reference relations with an noumenal or "transcendent" referent; rather the point of the I-idea seem to be that it serves as the basis for how to compute or *think of* individuating psychological subjects (or substances, generally).

The importance of absolute unity is not confined to its role in conceptualizing the object of inner sense (namely, the temporally-extended empirical "me"); rather its importance extends also to outer sense. In a spatially interpreted representational field, one where every 'object' is minimally a bounded region of (matter-filled) space, an entity's individuality cannot be conceptualized in terms of absolute simplicity. Because our representational systems conceive externality as spatiality, anything that perceptually comes down the pike must likewise be a composite entity. So it would therefore appear that the conditions of objecthood (in empirical-phenomenal reality) must be *adapted* to our cognitive systems, in particular to the conceptual constraints imposed by the necessarily spatial content of our representational field. It would therefore appear that absolute unity (or necessary unity) functions as a sort of

surrogate formula under which our systems can compute a composite entity as *one thing*. (See Diagram below.)

Diagram 2.6C:

Concept	Ontological Status	To Be Computed As	Conceptual Formula
Substance	Non-Composite	Singular Object	Absolutely Simple
Whole-Entity	Composite	Singular Object	Necessarily Unified

It is under this surrogate formula (of objecthood) that the transcendental ideas can be viewed as a "necessary maxim of reason" and, consequently, it is in light this formula that a 'transcendental deduction' of the t-ideas can be understood.

As we shall see, it is in light of reason's need to implement object-orientedness under this surrogate formula, that the developments and innovations of Kant's third critique can be motivated. Let me explain. Since (under Kant's analysis of the concept of a world in general) the fundamental parts of the world-whole are substances, the system now has a singular object to represent. But, on Kant's epistemology, concept-users could never derive the concept of an absolutely simple entity from experiential cognition. But a material composite (say, a monkey) may nevertheless model absolute unity *in propria persona* and consequently be regarded as *a substance*, but it may do so only when the whole-monkey is thought under the idea of an agent. Yet when a whole-monkey is represented under the concept of an *agent* (the I), the system can do nothing but think of it *as if* it were an absolutely singular entity, even though in empirical-phenomenal reality everything is composite. And since the ground for its singularity cannot be located in physical matter, the system must recompute the monkey's substancehood (from simplicity to necessary

unity). Once the whole-monkey is semantically up and running as a singular object, the system then has to *ground* its computation of a material composite as a singular thing; it must, in other words, *explanatorily underwrite* the whole-monkey's absolute unity (qua agent).[102]

It would therefore appear that, when conceptualized as if it were a conscious subject (on the model of the transcendental subject), a whole-monkey (which is composite) inherits a *necessary conceptual unity (*and thus a singularity). *Qua agent*, the whole-monkey is, necessarily, one thing: thinking of the whole-monkey as, necessarily, one thing is the *rule* concept-users put themselves under when they think of the whole-monkey *as an agent.* However since nothing simple exists in nature, the only way to fulfill the conceptual requirement of singularity is by taking an alternate conceptual route, namely, that of conceiving singularity under the rule of necessary unity. But -- and this is key -- in order to do *that*, the system has to make use of final causality; which is to say that reason must first identify the whole-monkey (qua agent) as the *end* (or target) of material composition.

Let me link this account somewhat more explicitly to reason's pursuit of the unconditioned. The idea of the transcendental I (of a psychological subject) is not merely a paradigmatic substance. Rather Kant says that the idea of self-consciousness *is* equivalent to the idea of the unconditioned (a variant thereof) (see A401-02). When conceptualized under the psychological transcendental idea (the I), a given conditioned (= the whole-monkey) can be conceptualized as the

[102] See Chapter 11 for more discussion of this point.

*un*conditioned (the final end *toward which* reason should direct its regressive syntheses). Viewed under the description of an agent, an organism represents (by analogy with ourselves) the unconditioned in propria persona because it is that for the sake of which a set of underwriting parts *ought to exist*; it contains in itself (comparative) totality of conditions.

It is within this framework, I suggest, that the third critique can be seen to introduce an important conceptual innovation. What this account evidently needs is a conceptualization under which something is *both* the cause and effect of itself -- an "effect" in the sense that it is a sum of physical parts; a "cause" in the sense that it *prescribes itself* (under some conceptualization of a whole-entity) as the end or target (scopus) of composition; in which case, it determines what the parts are (their identities and interrelations). In fact, Kant has such a concept, which is introduced and developed in the third critique, one whose intensional content is articulated in precisely these terms. It is the concept of a *natural end*.[103]

However in order for this to work, the whole-monkey has to figure in the *content* of that prescription as something that is already one thing; otherwise, the teleological explanation would be circular: it would prescribe the formation of a set of (very unmonkeylike) parts which did not add up to anything more than those very same parts (monkey guts). But since the idea of a whole-monkey (qua necessarily singular agent) cannot have a *referent* in empirical-phenomenal reality, the *ground* of

[103] See §§64-67 of the third critique's Analytic of Teleological Judgment. See Chapter 10 for a discussion of these sections.

such an entity must therefore be something supersensible.[104] But since we are blocked from having *cognition* of such a ground, the *need* for it must reflect something internal to reason. Since we cannot put the ideas of pure reason to use for the purpose of speculative cognition, the very idea of a supersensible ground must reflect the "interests" of pure reason.

What I'm suggesting is this: the point of the I/self/agent ideas isn't to establish reference relations to a transcendent or supersensible or other-worldly object; that puts the buggy before the horse. Rather, the point is that it is *through* this idea, one that cannot be derived from experience, that singular cognition is even possible. It is by first thinking something *under* this psychological variant of the t-idea that concept-users instate a rule, one whose cognitive enactment establishes (or, rather, prescribes) that the phenomenal referent of one's thinking be necessarily singular.

The major issue here is of course whether anything in empirical-phenomenal reality can extensionally live up to the intensional requirements imposed by the I/self/agent ideas. We saw that nothing can, not, at any rate, from the standpoint of theoretical reason. However, from the standpoint of *practical* reason, we, as pure

---

[104] Kant elaborates on this point in the third critique: "For this concept [of a natural end] leads reason into an order of things entirely different from that of a mere mechanism of nature, which will here no longer satisfy us. An idea has to ground the possibility of the product of nature. However, since this is an absolute unity of the representation, while matter is a multitude of things, which by itself can provide no determinate unity of composition, if that unity of the idea is to even serve as the determining ground *a priori* of a natural law of the causality of such a form of the composite, then the end of nature must extend to **everything** that lies in its product. For once we have related such an effect in the **whole** to a supersensible determining ground beyond the blind mechanism of nature, we must also judge it entirely in accordance with this principle; and there is no ground for assuming that the form of such a thing is only partially dependent on the latter, for in such a case, in which heterogeneous principles are jumbled together, no secure rule for judging would remain at all" (*CPJ*, §66, 5:377).

moral consciousness, may have a line on how to empirically apply this idea. We, as rational agents, are required to apply it first to ourselves, on aprioristic morally pragmatic grounds; when we do so we view ourselves as ends-in-themselves; however, since, as natural organisms, we are also products of nature, we therefore may view our physical bodies (the necessary instruments of causal efficacy and moral enactment) as ends or targets of composition, that is, as natural ends. Then, being only one particular species of natural organism, we may generally apply the concept of a natural end to other kinds of organism (by analogy to ourselves). And that, in a nutshell, is how teleology is introduced into nature.[105]

It would appear that natural teleology (plus practical theology) assist theoretical reason in realizing its higher-order function, namely, that of object-oriented representation. Viewed as natural ends (targets of composition), organisms appear to be nature's way of *indicating* what concept-users are *supposed to* compute as singular individuals; in computing a whole-organism as a natural end, we compute it as a singular entity (an agent), one which a set of parts are "supposed to" compose. The representation of *isolated* objects is not, however, theoretical reason's highest-order function; rather its highest-order function is to represent *a world*. To that end,

---

[105] In *OP* Kant writes: "The idea of organic bodies is *indirectly* contained a priori in that of a composite of moving forces, in which the concept of a real *whole* necessarily precedes that of its parts -- which can only be thought by the concept of a combination according to *purposes*. Regarded *directly*, it is a mechanism that can be known only empirically. For, if experience did not provide us with such bodies, we would not be entitled to assume even their possibility. How can we include such bodies with such moving forces in the general classification, according to a priori principles? Because man is conscious of himself as a self-moving machine, without being able to further understand such a possibility, he can, and is entitled to, introduce *a priori* organic-moving forces of bodies into the classification of bodies in general -- although only indirectly, according to the analogy with the

reason needs a language to distinguish between *thing* and *complex. Qua agent*, a whole-organism may subsequently be viewed as an individual *node* of interactive structure, one capable of possessing (and exercising) causal powers.

Kant seems to be getting at something that is conceptually prior to talk about object-oriented representation. He seems to be operating at the deepest level of conceptual analysis, one where the concern is not over *whether* we can know objects at all (and if so on what grounds) but rather *how* to compute the very conditions of objecthood in the first place. Under this analysis, reason does not consult experiential cognition in order to be informed of what counts as an object (since that is an undertaking it could make sense of only *after* it had set up the terms of what is to count as an object and what is to count as *purporting* an object). And, considered as a system of content-bearing entities, ones which are supposed to work together, the transcendental ideas appear to me to be the innate (or, at any rate, internal) devices *in whose terms* our embodied representational systems semantically grasp what is to count as an on-going, chronically-partial, and temporally-extended representation of a world; moreover, they are meant to do so not *in spite of* the fact but rather *because of* the fact that the world, as a absolute whole, is *never* (for us, as embodied systems) an object of experiential cognition.[106]

> The whole, in an empirical signification, is always only comparative. The absolute whole of magnitude (the world-whole), of division, of descent, of the conditions of existence in general, together with all the questions about whether these are to come about through a finite or an endlessly continuing

---

moving force of a body as a machine. He [must], however, generalize the concept of a vital force, and of the excitability of matter in his own self by the faculty of desire" (*OP*: 21:213, underscoring added).

[106] See 11.1 for more discussion of this point.

> synthesis, has nothing to do with any possible experience. . . . Appearances require to be explained only insofar as their conditions of explanation are given in perception, but everything that can ever be given in it, taken together is an absolute whole, is not itself any perception. But it is really this whole for which an explanation is being demanded in the transcendental problems of reason.[107]

2.8 The Transcendental Ideas As a Functional Architecture of the Mind

Kant says of the transcendental ideas that "a deduction of them must definitely be possible," but denies that this deduction is like the one he has given for the categories of pure reason (see A670/B698). So what is the deduction of the ideas of pure reason consist in? Kant says:

> Now if one can show that although the three kinds of transcendental ideas (psychological, cosmological, and theological) cannot be referred directly to any object corresponding to them and to its determination, and nevertheless that all rules of the empirical use of reason under the presupposition of such an object in the idea lead to systematic unity, always extending the cognition of experience but never going contrary to it, then it is a necessary maxim of reason to proceed in accordance with these ideas.[108]

On my reading, the Appendix (second part) constitutes a kind of *brochure*, one that details the three main types of cognitive systematicity to be derived by viewing the transcendental ideas in the recommended way, namely as, in some sense, functioning prescriptively as a *guide* for the empirical use of the understanding. (It is, more precisely, not so much the understanding's *activity* as it is the guided combination of its products or materials.[109])

---

[107] *CPuR*, A484/B512.

[108] *CPuR*,

[109] Grier observes this also.

The general idea advanced in the Appendix (especially in its second part) is clear enough: it is the claim that the ideas of reason serve some *functional value* within our cognitive systems. But can we do anything to increase or sharpen the resolution of this very general picture? I think we can, and do so with Kant-internal resources.

Notice that the transcendental deduction of the t-ideas consists essentially in showing that they are "necessary maxims of reason." Maxims are generally rules or aims, ones that are subordinate to more general principles or higher-order goals; maxims are therefore rules whose necessity consists in prescribing the means to realize some superordinate end or goal. In 2.5 I presented various Kantian texts, but one in particular seemed to represent (in Kant's mind) a highest-order principle (see A645-6/B673-4). Recall, under my analysis, this uber-principle prescribes an apical goal, namely one that mandates the maximization of mereological structure of a *rational* kind (where the parts are dependent on an idea or conception of the whole).

My proposal is this. We read Kant's general characterization of the deduction of the transcendental ideas as applying to each type of t-idea: a deduction of each type of transcendental idea would therefore consist in showing *how* each of the three types could plausibly be viewed a "necessary maxim of reason." And since the use of a maxim only makes sense in reference to some superordinate rule or higher-order goal, I suggest that we set up the uber-principle as stated in the first part of the Appendix (in A645/B673) as the principle *in reference to which* each of the t-ideas is to be viewed as a "necessary maxim of reason." Under this analysis, then, each type of transcendental idea would be a necessary maxim of reason in that each idea

contributes (in some nonredundant way) to the general goal prescribed in A645's uber-principle, whatever that turns out to be. Here we can usefully bring the results of our earlier analyses (see 2.5.2) to bear on the aim of the present section. Under my analysis, the uber-principle stated in the Appendix (first part) prescribes the general mandate to maximize systematicity, where this is to be explicated as the maximization of mereological structure. Consequently, each of the t-ideas' functional roles can be explicated in light of this general mandate. Finally, in order to further specify the directive content of A645/B673's uber-principle, we can read it in light of Kant's ID analysis of the concept of a world in general (see 2.6).

My proposal is as follows: Theoretical reason's goal is to represent the world as a single, necessarily unified, whole. In order to represent the world as a *whole*, theoretical reason must first be able to represent singular objects and, second, be able to connect them together so as to form structural complexes; these structural complexes must themselves be connected; to that end they must be conceptualized, in turn, as singular objects, ones that are elements of structural complexes of increasingly larger magnitudes. Consequently, theoretical reason accomplishes its higher-order cognitive aims by representing component parts, then connecting them together so as to form larger structural complexes. By such means, reason guides the construction of a multi-grade model of the world, one under which the world consists hierarchical order of structured wholes.

I submit that the transcendental ideas can be viewed as a system of higher-order cognitive functions, ones that guide our representational systems in respect of

three distinguishable levels of object-oriented representation. Viewed as such each prescribes an abstract model for what the system's object-oriented construction *is supposed to aim at.*[110] Functioning as guide to the empirical use of the understanding, each of the transcendental ideas contributes to the general goal of realizing (theoretical) reason's highest-order end, namely, of representing a *world-whole* (a cognitive aim that a finite system can only approximate but never entirely fulfill).

As remarked, the transcendental ideas are to be viewed as operational directives. Viewed as a *system* of directives, ones that are supposed to guide the empirical use of the understanding, the entire set of transcendental ideas may be viewed as guides for the *coordination* and *structuring of* the understanding's perceptual episodes (which are always partial) under the cognitive aim of representing a system of structured wholes. Reason coordinates the understanding's materials along three distinct levels:

1) the level of individual objects (on the model of whole-entities)

2) the level of individual structural complexes (ones made up of objects)

3) the level of structural complexes (made up of other structural complexes) and so on.

I submit that each *type* of transcendental idea prescribes to the system what is to *count* as an 'object' on a different magnitude[111] of object-oriented representation, be

[110] In this respect, the use Kant seems to intend for the transcendental ideas is similar to more contemporary *teleosemantic* accounts of meaning.

that of individual physical objects, structured arrays of such objects (ones embedded in interactive causal structures), or of objects on a larger cosmic level (that of galaxies, mega galaxies, etc). (See Diagram below.) By implementing the whole set of transcendental ideas (self, world, God) *systematically*, reason is able to guide the empirical use of the understanding so as to maximize the world's mereological structure; in doing so it seeks to realize its highest-order end of representing a world.[112]

Diagram 2.8D:

T-Idea	Object-Oriented Directive Content
Self	Represent the world's parts on the model of individual agent-substances
World	Connect the world's singular parts in structural complexes (causal structures)
God	Connect all *possible* structural complexes under the *idea* of a world-whole

[111] In Kant's thought the term 'magnitude' has a technical use. A magnitude is, according to Kant, a discrete quantum, meaning that it is composed of countable parts such that when these are counted (or measured in terms of some accepted standard of measure) the resulting magnitude can be identified with some determinate number. For instance, the human hand is a discrete quantum (having five fingers). Using this 'finger' as a unit of measurement (say the index finger of average person) we could construct a magnitude of the length of the Titanic (as n-many fingers long). Obviously, the transcendental ideas (specifically the subset Kant calls "world concepts"), do not refer to objects, let alone do they prescribe objects under a *determinate* metrical conception (of how large, how big, etc.) They are metrically indeterminate, but they do function to introduce object-oriented construction on three distinct scales without specifying an answer to the question, "How big or how small?".

[112] This suggests a view of substances as relationally constituted. On this point Beatrice Longuenesse and I agree: "Kant explains, in the Amphiboly, his opposition to Leibniz's view according to which substances are individuated by their intrinsic determinations (determinations they have on their own, independently of any external relation to other substances). According to Kant, on the contrary, substances, i.e., material things whose essential properties persist while their accidental properties change, are recognized under concepts of external relations (mutual causal determination). This means that the move from recognizing things as individuated in space and time, to thinking them under concepts of natural kinds, is a move from representing them in relations of universal mutual interaction, to thinking them under concepts of relational properties (cf. A274/B330-1, A283-4/B339-40)." Beatrice Longuenesse, *Kant and the Human Standpoint* (Princeton University Press, 2005), 197-98. Later in chapters 7 and 8) I argue that, under Kant's model of interaction, substances must be capable of two types of self-activity and for this reason must be conceptualized on the model of causal agents.

Theoretical reason's highest-order end is to represent *one* all-inclusive object, namely, *the world* (conceptualized as an absolutely complete whole). In order to realize this end, however, reason has to be able to represent the world's *parts* (individual substances) and, in addition, interconnect these parts in a causal structure, one in virtue of which a plurality of substances can constitute a world-whole.[113] This is where the cosmological ideas (or "world concepts") perform their functional role. However providing a detailed analysis of the cosmological ideas and their role in furthering reason's pursuit of the unconditioned is not my present concern.[114] Suffice it to say that, under my analysis, the cosmological ideas are supposed to help set up an "immanent"[115] ontological framework, one in which the world is to be represented as a hierarchy of structured wholes.

Finally, according to Kant a plurality of substances cannot constitute a world-whole (or, at any rate, we cannot compute it as such) unless we view the entirety of

---

[113] This causal structure, as it turns out, is one that Kant conceptualizes in terms of reciprocal interaction, which, as we will see, gets encoded (in a first critique context) in the category of the understanding (viz., the category of community). Until very recently the concept of reciprocal interaction (and Kant's use of it in the Third Analogy and elsewhere) has received little attention by Kant scholars. Fortunately, that is now changing. See recent work of Geoffrey Edwards (2007), Beatrice Longuenesse (2005) and Eric Watkins (2005), all of whom provide illuminating analyses of the Third Analogy. My own view (which I cannot state here) is most similar to Longuenesse's: "I intend to show that Kant's argument in the Third Analogy is meant to lay out just those acts of synthesis by way of which things are individuated in space and time. According to Kant, those acts of synthesis are acts by means of which things are represented as being in relations of universal causal interaction. Only insofar as they are so individuated can they also be thought under concepts of natural kinds (namely, under a universal scale of genera and species) ordered according to the form of discursive judgment and a system of such judgments" (197).

[114] I discuss the functional role of the cosmological ideas in Chapter 11.

[115] I read Kant's use of the term 'immanent' (or 'indigenous') to mean 'intraphenomenal', where this is to be further contrasted with what is transcendentally real. Immanent ontology refers to the

nature to be the *effect* of intentional causation. Susan Neiman (1994) similarly views Kant as making this point:

> To say ... that the world as a whole is the product of a conscious agent who, limited by the laws of logic, used means-end reasoning to produce what he took to be the best outcome is to say that the world is the sort of place we can understand.[116]

And this is where the God-idea (and, generally, Kant's physicoteleology) performs its functional role. God, as an intentional cause, represents an *explanatory standpoint* from which we, as human cognitive systems, are able to view the entirety of nature as thoroughly "intelligible"[117] to reason.

> For reason to exist in the world, however, something further must take place: God must, as it were, put it there at the creation, by choosing to create the world in the right way. To put the point another way: if there is one thing that is *constitutive* of the world, it is God's choice to create it, and that is, precisely, something teleological.[118]

On the hypothesis that nature was created by God, concept-users can see themselves and their cognitive relation to nature as one where they are on the *consumer's end* of a

---

objects of appearance, that is, to the world as it *appears to* phenomenal consciousness, not to an order of things that exists independently of human representational systems.

[116] Neiman, 25.

[117] This term is used often in the secondary literature, but few commentators officially acknowledge it as a technical term of Kant's (see A531/B559, A538/B566-A558/B586). In fact it is a technical term, one that Kant inherits largely from Leibniz. The basic idea is that rational intelligibility involves final causation, that is, causation that involves reference to ends (teleology). See Susan Neiman (1994) illuminates this point: "Leibniz's expressions of this anthropomorphism are often so crude as to obscure whatever is interesting about the idea; the spectacle of God as master watchmaker violates too many convictions of every discipline, including theology. But Kant will develop the intuition that Leibniz found no means to express plausibly: showing an event to be the necessary consequence of a series still leaves something to be explained. Reason seeks comprehension of the world as a whole. . . . Where the statement of a series of efficient causes leaves no room for further questions, providing another one may still leave an investigator experiencing the event as mysterious or arbitrary. At that point, only the statement of a final cause -- the end toward which an event is directed -- will satisfy human reason's demand for intelligibility" (Neiman, 25, underscoring added).

[118] Neiman, 24.

superior someone's practical reason; which is to say, concept-users can view the whole of nature (with all of its countless parts) on the model of an *artefactual object*, one that was first engineered and then created under the guidance of an idea of a world-whole.[119] It is under this presupposition that reason is able to intelligibly undertake (to make sense of) its highest-order mandate to maximize intraphenomenal systematicity.

2.9 The Functional Value of Kant's Physicoteleology

In the literature some commentators attempt to view Kant as arguing for a naturalized teleology, one which uses the concept of a 'function' in order to explain naturally-occurring organization (or system-structures in nature) and, in addition, claims it can do so without any explanatory use of the concept of an 'intention'. Ginsborg (2006) and Zuckert (2007) both say that Kant's concept of a natural end can be naturalized so as to eliminate any explanatory reference to an *intention*. They, however, represent a minority view. My own view is that Kant's position (in the CTPJ) isn't a form of *naturalized* teleology. If Kant were an advocate of naturalized teleology, his position would be very difficult to reconcile with claims he makes about how natural organisms are to be accounted for (namely, as the effects of

---

[119] On this point Kant writes: "Thus I say the concept of a highest intelligence is a mere idea, i.e., its objective reality is not to consist in the fact that it relates straightway to an object (for in such a signification we would not be able to justify its objective validity); rather, it is only a schema, ordered in accordance with the conditions of the greatest unity of reason, for the concept of a thing in general, which serves to preserve the greatest systematic unity in the empirical use of our reason, in that one derives the object of experience, as it were, from the imagined object of this idea as its ground or

intentional causation) and consequently make it very difficult to motivate his physicoteleology.

Indeed there are a number of texts where Kant seems to be saying that the *data* (concerning natural organisms) cannot be *understood* (at all) except in terms that ultimately derive from our subjective experience of practical intentionality.[120] Kant seems to think that the *meaning* of 'natural organism' (say, a monkey) is such that we cannot so much as *semantically compute* its referent independently of some vital reference to the subjective structures of our own intentional agency. On this point Kant writes (in the third critique) that

> there is some intentional ground of its existence (as a contingent natural being), and this thought is difficult to separate from the concept of an organized being: for once we have had to base its internal possibility in a causality of final causes and an idea that underlies this, we also cannot conceive of the existence of this product otherwise than as an end. For the represented effect, the representation of which is at the same time the determining ground of its production in an intelligently acting cause, is called an end.[121]

According to Kant we cannot epistemically triangulate on the data (concerning natural organisms) in a way that would allow us to view these phenomena *independently* of the structures that constitute our practical intentionality, because it is *these very structures* that largely *define* the phenomena under consideration. The

---

cause. Then it is said, e.g., that the things in the world must be considered as if they had gotten their existence from a highest intelligence" (*CPuR*, A671/B699).

[120] In *OP* Kant writes: "Organized bodies (which are not just matter) indicate an immaterial principle, and, insofar as organization extends through all parts of the world (transforming bodies and replacing dead ones with new formations in their place) indicate an *anima mundi*. The latter, however, may not be represented as a thinking being (spiritus), but, at most, as *anima bruta*; for, without this, purposive generation cannot, I will not say be explained, but be thought at all" (*OP*: 22:504, emp. added).

[121] *CPJ*, 5:426, underscoring added.

natural explananda would therefore seem to be pre-conceptualized in a way that is *already entrenched* in a teleological explanatory framework. The reasoning Kant formerly uses (in both *New Eluc* and *ID*) to draw realist conclusions about the ultimate ontological ground of nature is in the first and third critiques characterized as an *anthropomorphic* (or, at any rate, subjective) but nonetheless necessary mode of explanation.

> Since reason must be able to cognize the necessity in every form of a natural product if it would understand the conditions connected with its generation, the contingency of their form with respect to all empirical laws of nature <u>in relation to reason is itself a ground for regarding their causality as if it were possible only through reason</u>; but this is then the capacity for acting in accordance with ends (a will); and the object which is represented as possible only on this basis is represented as possible only as an end.[122]

When Kant says of the transcendental ideas that they are "subjective" the tendency is, I think, to read Kant as making an *epistemological* point. In fact, I don't think he is (or, at any rate, not *only*) making an epistemological point. When Kant characterizes the use of the transcendental ideas as "subjective," he is making first and foremost a *metaphysical* point. Kant is saying that the use or implementation of these content-bearers reflects certain structures of agency, structures that can only be thought of as belonging to a conscious subject, one possessing the faculty of practical reason. Such structures are not to be conceptualized on the model of *objects* existing "outside" our representational systems. Structures of agency are therefore not "objective," like physical objects in the world are; or, if they do exist in the world, their inclusion in

---

[122] *CPJ*, 5:370, underscoring added.

our empirical ontology is parasitic on another sort of object, namely, that of an embodied personal (or, at any rate, intentional) *agent*.

A number of issues arise here. First, there is the issue over how to explicate these structures (answer seems to be in terms of final causality). Second, given a satisfactory answer to this question, there is the issue over how the structures of agency (which are subjective in the sense explicated above) can be cognitively referred to nature. How, in other words, are agency structures (primarily, the concept of an end) to be viewed as structures *of nature*, when we've just acknowledged them to be the constitutive structures *of agents*?[123] Third, there is the issue over why it would be necessary to refer the structures of agency to nature in the first place. What's to be gained by doing this? The answer to this last question seems to be that it furthers the end of maximizing systematicity (see 2.8). Let us therefore focus on the second question.

Organisms are a rather special natural kind in that many species are capable of self-locomotion and, more generally, goal-directed behavior. Human beings are a subset of this natural class. We are cognitive subjects, ones that are not only self-aware but also causally efficacious physical beings. We therefore experience ourselves *as* intentional agents; we, as rational agents, are self-aware, goal-directed beings who can exercise their causal powers for the sake of realizing their ends or

---

[123] Here I do not restrict the extension of 'agent' to personal agents but rather include nonhuman organisms as well as anything that we would want to conceptualize as having *causal agency*. Kant conceptualizes substances in general on the model of agents, ones that possess (and exercise) causal powers. See Eric Watkins' *Kant and the Metaphysics of Causality* (Cambridge

goals. It would therefore seem that human beings (as interactants) introduce agency causation into nature, and they do so by the fact that they can generate a series of effects under a plan of action, one where effects are causally linked under an intention to realize a goal. (How this is possible is in fact the whole aim of Kant's solution to the Third Antinomy.) Moreover, as we have seen, Kant thinks that we can generalize the agency causation (which each of us knows in his or her own case) over the entire class of natural organisms, conceptualizing these entities as causal agents by analogy with ourselves.

We've just seen how we can introduce agency structures into nature by acknowledging some natural kinds as *agents*. Human beings (and generally the class of natural organisms) appear to be natural entities that Kant thinks must be thought of as agents. But there is a second possibility. In addition to recognizing some entities as the *producers* of a set of goal-directed effects, suppose we could acknowledge entities in nature as the *effects* of intentional causation. We could, in other words, view some products of nature on the model of artefactual objects (what Kant refers to as "products of art"). Natural organisms exhibit purposiveness in their internal structure. Organisms are *natural systems*; they *prescribe themselves* as the end or target of physical composition. Such entities would, in the terminology of the third critique, be "natural ends." In more contemporary idiom, this suggests that their compositional properties can be understood only in "teleofunctional"[124] terms, i.e., as

---

University Press, 2005) for a detailed analysis of Kant's model of causality, one that is based on the notion of a causal power.

[124] Or in "function-analytic" terms. I take these terms to be synonymous.

a set of parts conceptualized under a system of means/end relationships, one subject to a shared system-goal (namely, the one embodied by the whole-organism).

Kant seems pretty explicit in claiming that it is only from *within* the standpoint of agent causation that such objective purposiveness can ultimately be "made intelligible." And since *we* didn't create these phenomena (or else they wouldn't be products of nature), we must therefore hypothesize a suitable intentional agent, one other than ourselves (yet also on analogy with ourselves). In doing so, reason must hypothesize a *surrogate* causal agent, one it can project (or cognitively refer) the required intentional standpoint *to*. We do so in order to *vicariously* adopt a teleological standpoint on the whole of nature. In the Appendix (second part) Kant says:

> Thus the transcendental and single determinate concept of God that merely speculative reason gives us is in the most precise sense deistic, i.e., reason does not furnish us with the objective validity of such a concept, but only with the idea on which all empirical reality grounds its highest and necessary unity, and which we cannot think except in accordance with the analogy of an actual substance that is the cause of all things according to laws of reason.[125]

Evidently we are still supposed to assume a *referent* for the "object in the idea," in this case the "single determinate concept of God." But we don't do so on speculative grounds, that is, because we have some theoretical warrant to posit reference relations for the God-concept.

> Now I can nevertheless assume such an incomprehensible being, the object of a mere idea, relative to the world of sense, though not in itself. For if the greatest possible empirical use of my reason is grounded on an idea (that of systematic complete unity, about which I will have more to say presently), which in turn can never be presented adequately in experience, even though it

[125] *CPuR*, A675/B703, underscoring added.

> is unavoidably necessary for approximating to the highest possible degree of empirical unity, then I am not only warranted but even compelled to realize this idea, i.e., to posit for it an actual object, but only as a Something in general with which I am not acquainted at all and to which, as ground of that systematic unity and in relation to that, I give such properties as are analogous to the concepts of the understanding in their empirical use.[126]

What is of particular interest here is whether the idea's intentional object is being commandeered (being viewed as instrumental) not because the God-idea has any knowable (mind-independent) objective validity but rather for the sake of reason's interests or ends.

> Hence it happens that if I assume a divine being, I do not have the least concept either of the inner possibility of such a highest perfection or of the necessity of its existence; but then I can deal satisfactorily with all other questions concerning the contingent, and reason can obtain the most perfect satisfaction in regard to the greatest unity for which it is searching in its empirical use, but not in regard to the presupposition itself; this proves that it is reason's speculative interest and not its insight which justifies it in starting from a point lying so far beyond its sphere in order to consider objects in one complete whole.[127]

Indeed, sometimes Kant actually says that the God-idea, although a regulative principle, is supposed to be viewed *as if* it were constitutive.

> The ideal of the highest being is, according to these considerations, nothing other than a regulative principle of reason, to regard all combination in the world as if it arose from an all-sufficient necessary cause, so as to ground on that cause the rule of a unity that is systematic and necessary according to universal laws; but it is not an assertion of an existence that is necessary in itself. But at the same time it is unavoidable, by means of a transcendental subreption, to represent this formal principle to oneself as constitutive, and to think of this unity hypostatically. For, just as with space, since it originally makes possible all forms which are merely limitations of it, even though it is only a principle of sensibility, it is necessarily held to be a Something subsisting in itself with absolute necessity and an *a priori* object given in

[126] *CPuR*, A676/B704-A678/B706.

[127] *CPuR*, A676/B704, emp. added.

> itself, so it also comes about entirely naturally that since the systematic unity of nature cannot be set up as a principle of the empirical use of reason except on the basis of the idea of a most real being as the supreme cause, this idea is thereby represented as an actual object, and this object again, because it is the supreme condition, is represented as necessary, so that a regulative principle is transformed into a constitutive one; this substitution reveals itself by the fact that if I now consider this supreme being, which was absolutely (unconditionally) necessary respective to the world, as a thing in itself, no concept is susceptible of this necessity; and thus it must have been encountered in my reason only as a formal condition of thought, and not as a material and hypostatic condition of existence.[128]

On these occasions Kant seems to think that we are supposed to acknowledge the intentionality of the God-idea, not merely in the intensional (ontologically-neutral sense) but in the *extensional* sense of that term. In the extensional sense, a content-bearer's intentional object is the (objective) referent, not merely what the idea purports to be an idea of (whether or not there is a referent). When Kant says that, just as space is to be treated as if it were a Something (a cosmic container of the world's objects), so God must also be considered an actual Something, he seems to be recommending that the referential dimension of the God-idea, as a content-bearer, be cognitively instated, not because we, as cognizers, have any justificatory entitlement for doing so but rather because it suits reason's interests.

The pragmatic benefit of Kant's recommendation is made clearer in the Dialectic's Appendix (second part). There, the payoff seems to be the *perspective* on the world (or the representation of empirical-phenomenal reality) that concept-users can adopt when they (extensionally) assume the "object in the idea" (in this case,

[128] *CPuR*, A619/B647, underscoring added.

God). The world is put under the perspective where it is not just a plurality (or aggregate) of different substances but a *systemic whole*:

> One mistakes the significance of this idea right away if one takes it to be the assertion, or even only the presupposition, of an actual thing to which one would think of ascribing the ground of the systematic constitution of the world; rather, one leaves it entirely open what sort of constitution in itself this ground, which eludes our concepts, might have, and posits an idea as a unique standpoint from which alone one can extend the unity that is so essential to reason and so salutary to the understanding; in a word, this transcendental thing is merely the schema of that regulative principle through which reason, as far as it can, extends systematic unity over all experience.[129]

I think that the t-ideas, being content-bearing entities, represent an angle that one can take on the world; however, that this *angle* is so much as cognitively computable to us is owing to the fact that it reflects the structures of our rational agency. The formal structures of our own agency -- that we can set up and realize ends (our goal-directedness) -- introduce the *terms* in which to compute a corresponding new type of causality, namely, that of agency causation. But since these agency structures are *subjective*, they cannot be referred to material nature, not one, at any rate, which is conceptualized *exclusively* in mechanistic terms.

> For it is quite certain that we can never adequately come to know the organized beings and their internal possibility in accordance with merely mechanical principles of nature, let alone explain them; and indeed this is so certain that we can boldly say that it would be absurd for humans even to make such an attempt or to hope that there may yet arise a Newton who could make comprehensible even the generation of a blade of grass according to natural laws that no intention has ordered; rather, we must absolutely deny this insight to human beings.[130]

---

[129] *CPuR*, A681-82, emp. added.

[130] *CPJ*, 5:400-01.

However, under the scenario of physicoteleology it would be conceptually and explanatorily *appropriate* to take a teleological angle on nature since all of its products were created intentionally by God (who is a rational agent). Under such a hypothesis, concept-users could therefore view their cognitive relation to these natural phenomena as one where they see themselves on the *consumer's end* of someone else's (a supreme intelligence's) practical intentionality, the ultimate ground of nature's systematicity.

> A machine is a solid body whose composition is only possible by the concept of a *purpose*, formed according to the analogy of a certain intentional motion. If this form is represented, not as actual, but merely as a thinkable intention, then such a body is a *natural machine*. Organic bodies are, thus, natural machines.[131]

Under this scenario the enterprise of explaining natural organisms' internal structures would involve something like the activity of *reverse-engineering*, where concept-users begin with some prior (even provisional) conception of what the structured whole is supposed to be and then attempt to identify and individuate its parts under the presumption that each part makes some functional contribution to the whole. It is under this presupposition that reason is able to intelligibly undertake (to make sense of) its highest-order mandate to maximize intraphenomenal object-oriented systematicity.[132]

---

[131] *OP*, 22:211, emp. added.

[132] Kant writes: "The highest formal unity that alone rests on concepts of reason is the **purposive unity** of things; and the speculative interests of reason makes it necessary to regard every ordinance in the world as if it had sprouted from the intention of a highest reason. Such a principle, namely, opens up for our reason as applied to the field of experience, entirely new prospects for connecting up things in the world in accordance with teleological laws, and thereby attaining to the

Chapter Three

SPACE, INTERACTION, AND THE APPEARANCE OF A WORLD-WHOLE

3.0 Introduction

In the previous chapter I presented an interpretative framework, one in which a mereological dimension to Kant's cosmology is acknowledged. This "mereocosmic" framework co-opts certain pre-critical materials, specifically, Kant's analysis of the concept of a world in general. Under that analysis, the concept of a world has three conceptual components -- substances, form, and absolute entirety. Next, I proposed that the three conceptual components (of Kant's analysis of the concept of a world) be correlated with three types of transcendental idea (self, world, God). And since the mereocosmic framework is intended to be of a cognition-oriented type (see 1.3), I proposed that the t-ideas be modeled as three nonredundant types of cognitive directive, ones that jointly serve reason's highest-order objective to represent a world-whole. In light of this proposal we might reasonably ask whether Kant acknowledged his analysis of the concept of a world to have a cognitive significance, that is, whether his attitude toward one or more of its components underwent a change from viewing them initially in realist terms to subsequently viewing them to perform some internal function within our cognitive systems.

---

greatest systematic unity among them. The presupposition of a supreme intelligence, as the sole cause of the world-whole, can therefore always be useful to reason and never harmful to it" (*CPuR*, A687/B715).

In the present chapter, the aim is largely to focus on *one* of those conceptual components, (namely, the world's "form") and to show how Kant's conceptualization of it underwent development, one that is characteristic of the transition from the so-called "pre-critical" to the "critical" period. In Kant's *Inaugural Dissertation*, the term 'form' appears to have a generic use (one where it refers to a relational structure in which entities are "coordinated") as well as two other meanings, one 'sensible', the other 'intelligible'. Sensible form refers to space and time; intelligible form refers to the world's real causal structure (specifically, that of reciprocal interaction). In this precritical context, the sensible/intelligible distinction corresponds to the subjective/objective distinction, where 'objective' can plausibly be understood to mean 'mind-independent'. However, in a critical context, the meanings of these terms are altered. The sensible/intelligible distinction still corresponds to the subjective/objective distinction, but the meanings of these terms is now complicated by the fact that Kant acknowledges both an empirical and a transcendental reality (see 3.5-6).

In this context, what we see, I think, is Kant making a transition concerning how he conceives intelligible form, one in which it is originally viewed as the world's real causal structure to being viewed as an a priori category of the understanding; which is to say, that *reciprocal interaction* undergoes a significant shift, one in which it is originally viewed as mind-independent ontological structure to being encoded in the category of community and subsequently viewed as the conceptual substrate of empirical space (see also 3.5 and 11.3). Putting the point somewhat more generally,

we see items that were (in Kant's mind) originally objective in a realist sense nonetheless retaining their "objective" status in a post-Copernican[133] representationalist setting. How do they manage to do so? It is by being re-conceptualized (in one way or other) as part of the mind's *deep-structure*—a cognitive architecture that determines how the world *appears* to cognitive subjects.

The transition being described here is not however unique to the concept of reciprocal interaction; rather it is one that other metaphysical concepts undergo (e.g., substance and causality). In addition, we have seen such metaphysical concepts as the transcendental self, the absolute boundary of the world, metaphysical simples, and the traditional concept of God undergo a similar transition in Kant's thought. Instead of a wholesale chucking of speculative concepts (because each purports a "transcendent" referent), Kant acknowledges an intra-phenomenal use for these content-bearers, one that serves the interests of reason (see 2.2). It would therefore appear that Kant's general way of coping with metaphysical concepts (ones whose referent is deemed to be epistemically out-of-range) is to re-conceptualize them as *rules* for our representational systems, rather than as norms governing extra-representational reality. It is in light of this general way of coping that I propose to view the evident change in how Kant conceives of the world's (intelligible) form. Such a transition may plausibly be seen as reflecting a general developmental trend, one that provides at least some Kant-internal *inspiration* (if but little explicit

[133] I am of course alluding to Kant's Copernican Revolution in epistemology (see Bxvi, CPuR).

extrapolatory support) for the mereocosmic interpretative framework I presented in chapter 2.

3.1 Kant's Analysis of the Concept of a World in General

In the Herder transcript of Kant's lectures on metaphysics we find a concise (rather *Tractatus*-like[134]) statement of his ontology:

> The world is a real whole <*totum reale*>: all things in it stand in real connection <*in nexu reali*>.
>
> The world is a whole which is not part of another <*totum quod non est pars alterius*>: otherwise this would be only a piece of the world.
>
> *The world* is therefore a (real) whole of actual things, which is not part of another <*mundus ergo est totum (reale) actualium, quod non est pars alterius*>.
>
> 357. All things are in real connection <*in realnexu*>: they are connected in certain determinations, be they as they may.
>
> 358. (*In this world*) the world is present, of which I am part. There is a reciprocal connection, either mediately or immediately <(*in hoc mundo) mundus praesens est, cujus sum pars ego. Est nexus mutuus vel mediate vel immediate*.
>
> 361. (Cf. 354, as a proposition to be proven, should not be brought into the definition.) As parts, all parts of the whole are in real connection <*in realnexu*> with one another as component parts <*compartibus*>: because they are grounds of the whole, and the whole cannot subsist without them. A part thus depends on some determinations of the others: consequently no part in the whole is independent -- the whole [is] not independent -- [but] contingent.[135]

Later, in the *Inaugural Dissertation*[136] Kant provides an analysis of "the concept of a world in general." Under this *ID* analysis the concept of a world in general yields

---

[134] The reference is to Wittgenstein's *Tractatus*, in which the opening sentence is: "The world is all that is the case."

[135] *LM, Metaphysik Herder*, 28:40.

[136] The following is a partial list of abbreviations: ID = *Inaugural Dissertation*, New Eluc = *New Elucidations*, OP = *Opus Postummum*, CPuR = *Critique of Pure Reason*, CPrR = *Critique of*

three intensional components: 'matter', 'form' and 'entirety'. (See Diagram A.) The term 'matter' refers to the world's parts, which Kant identifies as substances; the term 'form' refers to the 'connection' that these parts must have to each another in order to jointly constitute a single world. In *ID* Kant distinguishes between two subtypes of form, sensible and intelligible and, in addition, further subdivides "sensible form" into two types, namely, space and time. (I discuss this more below.) Finally, the term 'entirety' refers to the conceptual requirement that for something to be a world, it cannot be a part of a larger whole; anything answering to the concept of a world would therefore have to be a *single* all-inclusive whole -- a "world-whole."[137]

Diagram 3.1a: Analysis of the Concept of a World

Terminology	Conceptual Requirements
Matter	Parts (Substances)
Form	Relational Structure (Connection)
Entirety	Completeness (Absolute)

Comparing the *ID* analysis of the concept of a world in general against the statement of Kant's metaphysics (in the Herder transcript) yields an important difference (or rather an omission) between the two. In the Herder transcript, all three components

---

Practical Reason, CPJ = *Critique of the Power of Judgment*, NF = *Kant's Notes and Fragments*, LM = Kant's *Lectures On Metaphysics.*

[137] One issue that arises here is over which subtype of sensible form, space or time, is more world-like. Is there, in other words, some reason why an (exclusively) temporal relational structure is ruled out as a conceptualization of the world's form? If so, then presumably there must be something about an exclusively temporal relational structure that conceptually negates one or more of the requirements imposed by the concept of a world in general. This raises another closely related issue: Since Kant (as will be made clear in the present section) thinks that space (or, space-time) is the sensible form to be affiliated with the world's real form, the question arises as to how space is able to recommend itself (over time exclusively) as being the more world-like of the two. What is it about space that makes this type of sensible form more amenable to being correlated with the world's form? (See 3.5-3.6 for related textual analyses.)

are represented: the world's parts, the "real connection" that unites them so as to constitute a single world, and the entirety requirement ("the world is a whole which is not part of another"). But in the Herder transcript there is no explicit acknowledgement of the distinction between two subtypes of "form," sensible and intelligible as there is in the *ID* analysis; furthermore there is no explicit mention of the two subtypes of "sensible form," namely space and time, as there is in *ID*.

In *ID* Kant says that the two subtypes of sensible form, space and time, are "subjective" and "ideal:"

> *Time is not something objective and real*, nor is it a substance, nor an accident, nor a relation. 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. It is a pure intuition. For it is only through the concept of time that we co-ordinate both substances and accidents, according to simultaneity and succession. And, thus, the concept of time, as the principle of form, is prior to the concepts of substance and accident.[138]

> *Space is not something objective and real*, nor is it a substance, nor an accident, nor a relation; 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 co-ordinating everything which is sensed externally.[139]

A more detailed analysis of these texts will be provided later. My present purpose is to draw attention to the differential between the Herder transcripts and ID's analysis of the concept of a world. It is this: in the Herder transcript, Kant appears to be conceptualizing the world-whole from an exclusively ontological angle; there is no

---

[138] *ID*, 2:400-01.

[139] *ID*, 2:403-04.

reference to human representational systems making any contribution whatsoever to that conceptualization; whereas in *ID* there is: space and time, as sensible forms, are subjective and ideal which appears to entail the acknowledgement that each is an "absolutely first formal principle of the sensible world:"

> Time, therefore, is an absolutely first *formal principle of the sensible world*. For all things which are in any way sensible can only be thought as either simultaneous or as placed after each other, and, thus, as enfolded, as it were, by a period of one single time, and as related to one another by a determinate position in time. Thus, there of necessity arises as a result of this concept, which is primary in respect of everything sensitive, a formal whole which is not part of another whole; that is to say, there arises a *phenomenal world*.[140]

> Although the *concept of space* as some objective and real being or property be imaginary, nonetheless, *relatively to all sensible things whatsoever*, it is not only a concept which is in the highest degree true, it is also the foundation of all truth in outer sensibility. For things cannot appear to the senses under any aspect at all except by the mediation of the power of the mind which co-ordinates all sensations according to a law which is stable and which is inherent in the nature of the mind. ... Accordingly, space is an absolutely first formal principle of the sensible world, not only because it is only in virtue of this concept that the objects of the universe can be phenomena but above all for this reason, that by its essence space is nothing if not unique, embracing absolutely all things which are externally sensible; it thus constitutes a principle of *entirety,* that is to say, a principle of a whole which cannot be part of another whole.[141]

In *ID* space and time reflect "actions of the mind," operations internal to human representational systems that "coordinate" sensory data. My present concern is not to provide a detailed analysis of Kant's notion of "coordination." Suffice it to say that it appears to be the condition under which representational systems are capable of cognitive reference to a world, either subjective or objective. Kant's distinction

---

[140] *ID*, §14.

[141] *ID*, 2:405.

between two subtypes of sensible form certainly resemble the distinction he makes (in a first critique context) between inner sense and outer sense; and the similarity naturally encourages the view that *ID's* sensible forms are *prototypes* of the first critique's concepts of inner and outer sense.

ID's analysis of sensible form includes, however, an additional (or, at any rate, a more explicit use of the) construct of "coordination," and this concept is used to explicate the difference between space and time as a difference in *how* represented entities are to be internally coordinated (or assigned positions) within what appears to be a norm-governed cognitively simulated relational structure, one that is either temporal or spatial.

> But *each of these concepts has*, without any doubt, *been acquired*, not, indeed, by abstraction from the sensing of objects (for sensation gives the matter and not the form of human cognition), <u>but from the very action of the mind, which co-ordinates what is sensed by it, doing so in accordance with permanent laws</u>. Each of the concepts is like an immutable image, and, thus, each is to be cognized intuitively. For sensations, while exciting this action of the mind, do not enter into and become part of the intuition. Nor is there anything innate here except the law of the mind, according to which it joins together in a fixed manner the sense-impressions made by the presence of the object.[142]

Inner sense, being conceptualized as an exclusively temporal relational structure, is the system's power to "coordinate" represented entities diachronically; whereas outer sense is the power to coordinate represented entities synchronically.[143]

It's helpful to interpret Kant's use of the term 'coordination' to refer to a more

---

[142] *ID*, §15, 2:406, underscoring added.

[143] Throughout this work, I will sometimes use the abbreviated term 'system' to refer to a *human representational system.*

general cognitive operation, one that is *form-neutral*, that is, having a content that straddles the difference in subtypes of sensible form (or the inner/outer sense distinction). The generic meaning is, I suggest, the idea of cognitive reference. Assuming that there *is* a generic meaning, context-sensitive uses of the term 'coordination' would derive their meaning from the *type* of relational structure used by the system in order to *refer* its representational contents. But whatever type it is would serve the system's need to cognitively refer entities to a relational structure. An exclusively temporal interpretation of the relational structure is (according to Kant) part of a system's cognitive simulation of *internality* (to that system), one where the aim is to represent an inner world of subjective phenomena. Here the objects (introspectable system-states or "modifications of the subject") are assigned positions in an exclusively temporal order existing in the cognitive subject.

The system's self-representation has *two* aspects, however. In addition to the one intentionally directed at a first-personally structured domain of intentional awareness, there is the system's cognitive simulation of an *external reality*. Space is (according to Kant) how human representational systems subjectively compute externality (to their systems). Space is a relational structure that provides (better: *imposes*) the terms in which a representer can *think* a reference relation between himself (his system) and an external referent; he (or his system) can think a reference relation that is exclusively cross-temporal, in which case he thinks reference relations among his internal states, ones that are understood (by his system) to be staged and played out only *intra*personally; or, by contrast, a concept-users can think reference

relations of another sort, ones that link his intentional contents to a set of referents that exist synchronically. In that case, the representer thinks reference relations to a set of referents that coexist "outside" his individual embodied representational system (in the simulated order of spatial relations).

So far the aim of the present section has been to use the Herder transcript mostly as a *foil* for developing a contrast between its description of a world-whole and *ID's* intensional analysis of the concept of a world in general. What exactly is the difference between the two? The difference is that whereas both acknowledge a relational structure (of one sort or other) as a requirement for a plurality of entities to constitute a single world, only one (*ID*) explicitly acknowledges the contribution made by human representational systems to the conceptualization of the world's relational structure. (See Diagram 3.0b.)

Diagram 3.1b:

Acknowledgement Of:	Herder Transcript	*ID* Analysis
Relational Structure?	Yes	Yes
Representational Component?	No	Yes

3.2 Specifying Intelligible Form As Reciprocal Interaction

In *ID* it is sensible form (space and time) that Kant evidently regards as the contribution made by human representational systems to (the representation of) the world's form. Further, Kant contrasts sensible form with intelligible form, saying that while the former are "subjective" and "ideal," the latter is "real" and "objective." (See Diagram 3.2 below.) What, exactly, is intelligible form? Whereas we have been given a specification of sensible form (as space and time), there has as yet been no

specification of intelligible form. Kant does not appear to be as explicit about what intelligible form *is* as he is about sensible form; however, there are a number of texts (internal to *ID*) that allow us to plausibly hypothesize a specification of it. In the section entitled "On the principle of the form of the intelligible world," Kant says:

> Accordingly, a whole consisting of substances is a whole which consists of contingent beings, and the *world, in its own essence, is composed of mere contingent beings*. Furthermore, no necessary substance is connected with the world unless it is connected with it in the way in which a cause is connected with what is caused. It [= a necessary substance] is, accordingly, not connected with the world in the way in which a part is connected with its complementary parts to form a whole (for the connection of constituent parts is one of reciprocal dependence, and such dependence does not belong to a necessary being). Therefore, the cause of the world is a being which exists outside the world, and thus it is not the soul of the world; its presence in the world is not local but virtual.[144]

Here Kant argues that contingent substances (not necessary substances) can stand in the sort of relations required of them in order to constitute a single world-whole. And we can use this argument to triangulate on the issue over how to specify the content of 'intelligible form'. The background metaphysical issue here is over whether necessary substances can be connected to other substances in the way required to constitute a single world-whole. Kant says no. And the reason is this: in order to constitute a single world-whole, a plurality of substances are required to stand in composition relations to each other; they must be interconnected in such a way so as *to compose a whole*. Since Kant's claim is that no set of necessary (= independent stand-alone) substances could compose a whole, we can hypothesize that there's something about the composition relation that (in Kant's mind, anyway) threatens to

[144] *ID*, §19.

conceptually negate a substance's ontological necessity (= its ontological independence). What would this be?

In the citation Kant describes the connection by virtue of which a plurality of parts compose a world-whole as a "reciprocal dependency," which suggest that he is conceptualizing the composition relation as a *causal relation*. Moreover, in view of the fact that Kant describes the dependency as "reciprocal," we can plausibly infer that this causal relation is a reciprocal causal dependency, one that Kant elsewhere refers to as "reciprocal interaction." This interpretative move is supported by textual analyses of various parallel discussions of Kant's explanation of a world-whole. (See 4.1-2) In other texts to be analyzed later (see 5.1), Kant explicitly maintains that there is some sort of logical inconsistency in conceptualizing a necessary substance (which depends on nothing for its existence or properties) as a part of a world-whole. In this context, a composition relation seems to be viewed as a *threat* to a substance's ontological status (as a necessary one) because in order to stand in such a relation with other substances, a substance would have to be causally *dependent* on other substances (see 5.1). This threat would make sense under the interpretative hypothesis that (in Kant's mind, anyway) *composition relations* were to be explicated as a special sort of *causal relation* (namely, that of reciprocal interaction).

Let's return now to the original issue, namely, the concern over specifying intelligible form. If (in contrast with sensible form) intelligible form is real and objective, then intelligible form would have to be identified as the relational structure in virtue of which a plurality of substances constitutes a single world-whole;

furthermore, since, as we have just seen, it is a composition relation that a plurality of substances must stand in order to constitute a world-whole, one conceptualized in terms of reciprocal interaction, it would therefore appear that intelligible form can be plausibly specified as reciprocal interaction. So we now have *two* relational structures (or, at any rate, two conceptualizations), one sensible, the other intelligible. (See Diagram 3.2 below.)

Diagram 3.2:

Form-Type	Relational Structure	Faculty Affiliate	Ontological Status
Sensible	Spatial	Sensitive	Ideal (Subjective)
Intelligible	Reciprocal Interaction	Understanding	Real (Objective)

A number of important issues arise here. One major issue is over how Kant conceptualizes the *relation* between sensible and intelligible form. Another important issue concerns whether sensible form is to be included in the concept of a world in general as part of the latter's conceptual content. My present focus is, however, on the first issue.

That Kant thinks there is a relation between the two, indeed a rather intimate one, is not in question:

> Accordingly, the following question, which can only be solved by the understanding, remains untouched, namely: *what is the principle upon which this relation of all substances itself rests, and which, when seen intuitively, is called space?* The hinge, then, upon which the question about the principle of the form of the intelligible world turns in this: to explain how it is possible *that a plurality of substances should be in mutual interaction with each other*, and in this way belong to the same whole, which is called a world. We are not here contemplating the world in respect of its matter, that is to say, in respect of the natures of the substances of which it consists, whether they are material or immaterial. We are contemplating the world in respect of its form, that is to say, in respect of how, in general, a connection between a plurality

> of substances comes to be, and how a totality between them is brought about.[145]

A detailed analysis of this text is offered later. Here it suffices to observe that sensible form (space) and intelligible form (interaction) appear to be linked within an *explanatory* framework. Shortly I will argue for an interpretative framework, one that makes the explanatory context of this text (and certain others to be analyzed later) more explicit; within this framework the relation between intelligible form (= reciprocal interaction) and sensible form (= space) consists (to use terminology of the period) in "the relation of ground to consequent."

> In the representation of the composite [e.g., space and/or time] the composition is always our own work. Now we can say that the object corresponds with that. Yet this correspondence cannot consist in the fact that the quality of the composition is similar to the composite, rather one must be the ground or the consequence of the other (the latter is the case if the object is mere appearance).[146]

Under the proposed interpretation intelligible form is therefore to be viewed as the "determining ground" (Kant's term) of the sensible form of space.[147] We may put the view (of the relation between intelligible and sensible form) in terms somewhat less Kant-internal by saying that reciprocal interaction *explanatorily underwrites* the empirical representation of space. Stating the view in these somewhat less historically sensitive terms is, however, not intended to obscure Kant's interest in

---

[145] *ID*, §16

[146] *NF*, 18:616.

[147] To complicate matters, the pre-Ccritical Kant distinguishes between two types of determining ground, the consequentially determining ground and the antecedently determining ground. This distinction is made in New Elucidations, where Kant's aim is to present his formulation of the "principle of the determining ground," (his version of the principle of sufficient reason).

(indeed reliance on) the principle of sufficient reason. Acknowledging Kant's interest in applying the principle of sufficient reason (his version of it, at any rate) affords us an interpretative *angle* on his view of the *link* between intelligible and sensible form. It is as follows: the empirical representation of space is itself a phenomenon (= datum) for which concept-users must hypothesize an underwriting determinant, one that is adequate for the datum to be explained.

3.3 Methodological Considerations: Period-Neutrality

It is my intention to offer (what I will refer to as a) *period-neutral* model of Kant's explanatory framework, one that derives its formulation and interpretation from Kantian texts deriving from *both* the pre-critical and critical periods of Kant's philosophical career, as well as from other less-acknowledged sources (e.g., transcripts of his lectures on metaphysics). A period-neutral model would be one that is able to cross the precritical/critical interpretative barrier because, first, it has been based on Kantian texts deriving from both sub-periods and, second, because it has been conceptually developed at a level of abstractness so as to avoid any period-specific changes in terminology and/or formulations. This shouldn't, however, be taken to imply that the model*er* has been historically insensitive; on the contrary, period-neutrality reflects a methodological orientation that acknowledges an intellectual *continuity* between the works Kant wrote during the period referred to as "pre-critical" and the works he wrote during the period referred to as "critical." It means that theoretical constructs Kant developed in the *pre*-critical period are not (for

that reason alone) to be considered irrelevant to a substantive interpretation of his later critical works.

Some Kant scholars share a similar methodological orientation. Eric Watkins, a post-millennial Kant scholar, has provided a sustained defense of the kind of methodology I am describing.[148] While he does not (to my knowledge) invoke the term "period-neutrality," Watkins does argue that in order to understand Kant's critical works (specifically, the CPuR), readers must understand Kant's precritical works (and the philosophers Kant is reacting to in these works). Indeed Watkins' own book, which argues for a revised interpretation of Kant's account of causality, uses Kant's precritical texts as part of the bases for its revision. Further, Watkins has recently published a companion book to the first critique, one that contains various background source materials which he thinks are necessary for understanding that major critical work.[149] These materials include the works of Kant's contemporaries, philosophers like Crusius, Baumgartner, Wolff, and Leibniz. Kant's precritical works are in one way or other reactions to these philosophers. So if Watkins' contention is right, if grasping the works of these other philosophers is necessary (or, at any rate, highly useful) for understanding Kant's first critique, then we have as much or greater reason to think that *Kant's* precritical reactions to these philosophers is as necessary (or as useful) to understanding the later Kant!

---

[148] See the Introduction in Eric Watkins' *Kant and the Metaphysics of Causality* (Cambridge University Press, 2005).

[149] Eric Watkins, *Kant's Critique of Pure Reason: Background Source Materials* (Cambridge University Press, 2009).

Another way of putting the point of period-neutrality: Kant's explanatory model, as I construct it, is a single conceptual entity that has undergone development over the course of Kant's career; like a child developing over time, acquiring new characteristics and functional sophistication, Kant's explanatory model has undergone similar developmental change (some of which are explicit, some implicit), but the develop*ee* (the changeling) is, in my view, the single explanatory model. (It is against the background of this developmental story concerning Kant's work that I will argue in Chapter 10 for the model's implicitness in the third critique.) These are, however, methodological considerations whose correctness I cannot argue further for here.

3.4 Toward Motivating the First Critique's "Schematism"

The aim of the present section is to raise issue over whether sensible form is to be included as part of the conceptual content of the concept of a world in general. There appear to be two possible interpretations here, one where 'sensible form' is viewed as part of the conceptual content of the concept of a world in general, and one where it isn't. Under the first interpretation, 'sensible form' is given an abstract content (one where it doesn't refer to space and time) and then it is conceptually subsumed under the 'form' component of the concept of a world in general. Under the first interpretation, 'sensible form' need not refer to space and time (these being specific to human representational systems); no, the inclusion of sensible form as part of the analysans of the concept of a world (in general) would amount to

acknowledging that what a world *is* depends conceptually on certain facts about the representational system in which that world is to be represented. Due to its hyper-abstractness, the concept of a world in general may be *indeterminate* with respect to the specific type of representational system needed; in that case, it would therefore conceptually underdetermine the types of sensible form. Under this interpretation, it would be part of the *content* of the concept of a world (in general) to prescribe that for something to be a world at all, there must be some representational system up to the job of representing its relational structure.

But there is a snag here. Under this interpretation, the concept of a world starts to look more like an epistemic concept, not an ontological one. For how could it retain its status as the concept *of a world in general* if its conceptual content included some necessary reference to a representational system?

This brings us to the alternative interpretation, according to which sensible form is not to be conceptually included among the intensional components of the world in general. Under this second option the situation isn't much improved, however, because of a fundamental mismatch between the conceptual content of form (the notion to be included in the concept of a world in general) and of sensible form (the notion *not* to be included). As remarked, sensible form isn't an ontological concept; it is an epistemic (or, at any rate, a cognitive) concept, one that refers to the internal operations of human representational systems and the cognitive processes used to represent a reality external (to the system). If the reason for excluding 'sensible form' from the concept of a world in general is that the former involves

necessary reference to a representational system, then in view of the fact that some notion of form *must* be included (in the concept of a world), it follows that there must be some conception of form that isn't contaminated by this objectionable reference; in that case, we could expect one of Kant's uses of the term 'form' to refer to a relational structure that is *system-independent*, one that refers to the "real connection" among a plurality of substances (not the merely 'ideal' one).

Here's where the *ID* distinction between "sensible" and "intelligible" form relevantly comes in. Whereas 'sensible' form (space and time) are merely ideal ('ideal' meaning mental), intelligible form refers to something real and objective.

> The principle of the form of the universe is that which contains the ground of universal connection, in virtue of which all substances and their states belong to the same whole which is called *a world*. The principle of the form of the *sensible world*, is that which contains the ground of the *universal connection* of all things, insofar as they are *phenomena*. The form of the *intelligible* world recognizes an objective principle, that is to say, some cause in virtue of which there is a combining together of the things which exist in themselves. But 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 of the form 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 (though the qualities of those objects) are seen as *necessarily* belonging to the same whole. Accordingly, whatever the principle of the form of the sensible world may, in the end, be, its embrace is limited to actual things, in so far as they are thought capable of *falling under the senses*.[150]

Since form refers to the world's relational structure, it would appear that Kant's two conceptions of form are fundamentally different: sensible form is an epistemic concept referring to a system-*de*pendent relational structure, whereas intelligible form

[150] *ID*, §13, emp. original.

is the concept of a system-independent relational structure. These concepts therefore seem to be about two different subject matters. The first is about a necessary feature of (human) representational systems; the second is about the internal structure of the world. As remarked, the first is essentially an epistemic concept, whereas the second is an ontological concept. In that case, how could concept-users conceptually subsume the concept of sensible form under the concept of intelligible form?

Cognitive judgment (= subsumption) requires a sameness relation between concept and instance.[151] In view of this requirement the issue arises over whether there is any dimension along which sensible form (space) and intelligible form could stand in a sameness relation? Suppose there wasn't. So what? For one thing sensible form could not be conceptually subsumed under 'form', in which case concept-users could not regard their system-dependent representation of space as an internal representation (or analog) of *something external* (namely, a world). Concept-users would therefore be unable to regard their internal representation of empirical space as the system's attempt to represent an external order of world-constituting relations.

---

[151] According to Kant, cognitive judgment is to be explicated in terms of subsumption, where this involves concepts and intuitions. The "form" of a concept is its universality (generality). Kant appears to think that a concept's form (generality) requires (what he calls) "multiplicity." This latter concept can be explicated in terms of multiple instantiability. Multiple instantiability, however, requires two things: "homogeneity" and "heterogeneity" (or sameness and difference). In order to subsume Fido under the concept of a dog, Fido has to stand in a sameness relation to the intensional content of that concept (e.g., quadruped, carnivorous, domesticated, etc). But in order to distinguish Fido from other entities similarly subsumable, Fido has to have features or characteristics that are not contained in the concept of a dog (e.g., Fido's location in space). In order for 'dog' to be multiply instantiable, there has to be a multiplicity of singular individuals all of which belong to the extension of 'dog'. But for that to be possible, these singular individuals cannot be *the same in every respect*; rather in addition to the feature they share as members of the extension of 'dog', members must have individually variant feature-sets (ones that are "heterogeneous") so that one dog-member can be distinguished from other similar (but nonidentical) dog-members belonging to the same extension.

While they would be able to conceptually subsume an order of spatial relations under the concept of sensible form, concept-users would *not* be able (= would not be entitled) to subsume sensible form under the concept of *intelligible form*. Concept-users would therefore be cognitively blocked from making this subsumption. And since (under the current scenario) only intelligible form is to be included as part of the conceptual content of the concept of a world in general, it follows that an order of spatial relations would not be conceptually subsumable to the concept of the *world's form*.

According to Kant cognitive judgment (whose propositional form is generically modeled by the predicative 'S is P'-type) is essentially a form of recognitional awareness.[152] So concept-users who are unable to subsume sensible form under intelligible form would therefore appear to be unable to subjectively compute an internally represented order of spatial relations *as* the cognitive simulation of an external world. Concept-users would not, in other words, be able to regard this subjectively represented order of spatial relations as a mental model of an *external* order of relations because that would involve thinking (or representing) that order of relations[153] *under* the concept of a world. Let us therefore call this a problem

---

[152] Concepts are therefore recognitional norms. In an interesting paper Zeno Vendler argues for a linguistic classification of verbs which he calls "recognitives," ones where the 'is a' relation in 'S is a P' statement means 'as a', so that the statement 'S is a P' is understood to involve some (implicit) reference to an intentional system (a mind capable of judgment). In the context of making a judgment, when is S subsumed under the general predicate P, S is thereby represented to the concept-user *as a P*.

[153] In subsequent discussions the terms 'relational structure' and 'order of relations' are used synonymously.

of cognitive subsumption. I submit that the problem of subsumption is what primarily motivated the first critique's Schematism. (I discuss this more below.)

3.5 The Empirical Representation of Space[154] Requires An Underwriting Ground.

According to Kant's analysis of the concept of a world in general, a world must have three features: parts (substances), form (relational structure) and it must be absolutely complete (not a part of a larger whole). Kant does not, however agree (with Crusius, for instance) that the mere *existence* of a plurality of substances is sufficient to constitute a world. (An analysis of Kant's attack on Crusius is deferred until later.) In part IV (of *ID*) Kant's focus is on the world's *form*, the relational structure in virtue of which a plurality of substances can be connected to each other so as to jointly constitute a single world-whole (as opposed to a mere aggregate of unconnected entities). The larger issue being addressed in this section (of *ID*) is the explanation of the existence of the world-whole. In §16, however, the issue appears to be over which *type* of form, sensible (= space) or intelligible (= interaction), is most adequate to play the functional role of the world's "real relations," an objective relational structure, one in virtue of which a plurality of substance-parts may compose a whole; the second issue appears to be a concern with determining the

[154] The "empirical" representation of space is employed for the purposes of experiential cognition and is therefore is object-oriented (see 11.2).

relation between the sensible form and intelligible form. My present focus is on the first issue; I discuss the second afterwards.

It's clear that Kant thinks space is *not* adequate to be the world's real relational structure:

> Those who take space and time for some real and absolutely necessary bond, as it were, linking all possible substances and states, do not think that anything further is required in order to understand how a certain originary relation, as the fundamental condition of possible influences and the principle of the essential form of the universe, should belong to a plurality of existing things. For, since whatever things exist are, in their opinion, necessarily somewhere, it appears superfluous to them to enquire why these same things are present to each other in a fixed manner. For this, it seems to them, would be determined in itself by the entirety of space, which includes all things. But, apart from the fact that this concept, as has already been demonstrated, rather concerns the sensitive laws of the subject than the conditions of the objects themselves, even if you were to grant to this concept the greatest possible reality, it would still only signify the intuitively given possibility of universal co-ordination.[155]

My interest in this text is in Kant's explicit *acknowledgment* of space's *in*adequacy to perform in the role of the world's relational structure, not in the *reasons* he gives for that acknowledgement. As for its reasons, there appear to be three. The world's real relational structure, the one in virtue of which substances are connected to form a world-whole, cannot be identified with space (or, at any rate, a spatially-interpreted relational structure) because, first, space is both "subjective" and "ideal;" therefore, it cannot be the world's "real" and "objective" relational structure. But putting this (space's ideality) aside, there are two other considerations: Viewing space as a mere cosmic *container* (a view Kant rejects) would not explain the diversity of norm-

[155] *ID*, §16.

governed relations, the multivariate patterns of nomic regularity, that obtain among all of the world's entities ("why they are present to each other in a fixed manner"); second, as Kant says, "it would still only signify the intuitively given possibility of universal co-ordination."

Unfortunately, Kant does not elaborate on this last reason. There are two issues here: first, over what "co-ordination" precisely consists in and, second, how space's reality (its hypothesized objective existence) would imply (at best) only a *possible* sort of relation, namely, "universal co-ordination." The basic idea appears to be that because space is necessarily singular, every determinate region of space is a part of one all-inclusive space; furthermore, in light of my earlier suggestion (to conceptualize co-ordination in terms of cognitive reference), we can interpret Kant as saying that, even if space were granted "the greatest possible reality," the *most* that could be derived is the possibility of cognitive cross-referencing among all the entities (substances) occupying positions in space. As parts of one space, this cross-referencing would (in principle) apply to *all* entities existing in space (hence it would be "universal"). Moreover, such cognitive cross-referencing (say, between any two entities x and y) would require x and y to coexist in the same (spatial) world.

Here Kant does not, however, appear to be concerned with the conditions under which cognitive reference (coordination) is possible; rather the issue seems to be over what could *explain* (what could ground) the connection among a plurality of

entities (so as to form a world-whole).[156] Since this appears to be the issue (in *ID*, §16) and since, in addition, space is rejected as inadequate in this context, we have reason to hypothesize, first, that there is something about space such that, even were it granted "the greatest possible reality," it would nevertheless still be inadequate (by itself) to constitute the world's relational structure. It would therefore appear that while space is certainly that *in which* a plurality of entities may coexist, it cannot (for reasons not yet made clear) be that *in virtue of which* a plurality of substances are connected so as to form one world-whole.

The significance of the text under analysis (cited above) does not consist in its list of reasons (or argumentation) for the ideality thesis concerning space (that space is "in us"). The *locus classicus* for Kant's reasons for the ideality of space (and time) is of course to be found in the first critique's Transcendental Aesthetic. The uniqueness of this text is not due exclusively to its acknowledgement of space's inadequacy (to perform in the role of the world's real relational structure), however; rather it is due to the confluence of that acknowledgement with certain other contextual features, ones that indicate Kant's interest as being both explanatory and epistemological (or cognitive).

How, specifically, are these to be combined? As remarked, Kant holds (even in *ID*) that human representational systems mentally simulate externality (to their

[156] Here I do not mean to suggest that these two issues, the epistemological one concerning the possibility of coordination (cognitive reference) and the ontological one of grounding a world-whole, are mutually exclusive. Indeed, when considered in a first critique context, Kant's concern with grounding our empirical representation of space by reference to reciprocal causal structure and then a conception of substance can be interpreted as his giving the possibility conditions for cognitive reference, or, to use a phrase from Robert Brandom, as giving a "metaphysics of intentionality."

systems) in terms of space. Kant uses this fact as a datum on which to hypothesize an underlying ground for the empirical representation of space. (This suggests that the ground hypothesized is to stand in a representation relation to the empirical representation of space.) In *ID* §16 Kant writes:

> Accordingly, the following question, which can only be solved by the understanding, remains untouched, namely: *what is the principle upon which this relation of all substances itself rests, and which, when seen intuitively, is called space?* The hinge, then, upon which the question about the principle of the form of the intelligible world turns in this: to explain how it is possible *that a plurality of substances should be in mutual interaction with each other*, and in this way belong to the same whole, which is called a world. We are not here contemplating the world in respect of its matter, that is to say, in respect of the natures of the substances of which it consists, whether they are material or immaterial. We are contemplating the world in respect of its form, that is to say, in respect of how, in general, a connection between a plurality of substances comes to be, and how a totality between them is brought about.[157]

There are a number of important observations to be made concerning this text. First, notice that the larger issue at stake is identified (in the final sentence) as "how, in general, a connection between a plurality of substances comes to be, and how a totality between them is brought about." The larger issue is explanatory, and the targeted explanandum is a spatially represented a world-whole composed of a multitude of substances all of which are 'connected'. The special focus (within this explanatory context) is, however, the world's relational structure and how it is to be conceptualized: "We are contemplating the world in respect of its form ...".

[157] *ID*, §16, original emp.

Notice, in addition, that there are two italicized statements in the text above. We can safely assume that each is of some importance to Kant. I submit that each of these represents separate levels of explanation. Consider the first italicized question: "*what is the principle upon which this relation of all substances itself rests, and which, when seen intuitively, is called space?"* As remarked, space is (in Kant's mind, anyway) inadequate to be regarded as that in virtue of which a plurality of substances constitute a world-whole. It would therefore appear that what Kant is doing here is acknowledging space as a datum (one which applies, at any rate, to human representational systems) and is, in addition, using this datum as a basis on which to hypothesize an underlying determinant (or ground). Kant seem to be asking something like this: Given that space is a datum and that space is entirely inadequate to ground the connections needed among a plurality of entities to constitute a world, there must ('must' of hypothesis) be some *other* relational structure, one which *is* adequate to connect these entities (so as to form a world) and, in addition, is able to explanatorily underwrite the datum of space.

The issue *whether* space can serve as the ground of the connection of multiple entities is decided (in Kant's mind, anyway): it cannot. Kant maintains this view even in the critical period. (See Diagram 3.5a below.) And from the ID text under analysis it's pretty clear that space cannot ground the connection among a plurality of substances because *it* (the empirical representation of space) stands in need of a ground itself. What isn't so clear, however, is *why* space requires a ground. What is it about space that makes it explanatorily incapable of grounding the connection

among a plurality of entities in such a way as to be world-constituting? Or, to pose the question from a slightly different angle, under what conceptualization of space would Kant draw the conclusion that it is explanatorily incapable of underwriting the connection among a plurality of substances? I cannot pursue these issues here. My present aim is to assume *that* space requires the hypothesis of a ground (a second relational structure) and to determine more precisely what this ground is and its relation to the datum.

What could this other relational structure be? It has already been shown (or, at any rate, plausibly suggested) that intelligible form is to be specified as (the concept of) reciprocal interaction. Notice also how Kant appears to be referring to intelligible form (explicated in terms of reciprocal interaction) as the world's real form. This makes sense, since intelligible form was earlier contrasted with sensible form; whereas sensible form (space and time) is "subjective" and "ideal," intelligible form is "real" and "objective." Assuming this is correct, then (to return to the consideration of the first italicized statement), Kant appears to be saying that the datum of space (our empirical representation of it) requires the hypothesis of a causal structure (one explicated in terms of reciprocal interaction); moreover, the implication seems to be that when a "real" and "objective" causal structure of this type is mentally simulated in/by a human representational system, the *content* of this simulation is identical to our empirical representation of space.

Diagram 3.5a:

Dossier Concerning Space	Kant's Answer
Whether space *requires* a ground?	Yes
Whether (some type of) causal structure *is* that ground?	Yes
Whether the *type* of causal structure is reciprocal interaction?	Yes

So the first level of explanation establishes a link between the datum of space (as an internal representation of an external order of relations) on the one hand and interaction (as the world's real causal structure) on the other; since the former is the datum on which the latter is to be hypothesized, the latter must be amenable to explanatorily underwriting that datum's defining features and/or essential characteristics, simultaneity relations (coexistence) being foremost here. Under the interpretation just given to the text (cited above), *ID* can be seen to stand in sameness relation to the first critique, specifically, to the Third Analogy:

> *The unity of the world-whole, in which all appearances are to be connected, is obviously a mere conclusion from the tacitly assumed principle of the community of all substances that are simultaneous: for, were they isolated, they would not as parts constitute a world, and were their connection (interaction of the manifold) not already necessary on account of simultaneity, then one could not infer from the latter, as a merely ideal relation, to the former, as a real one. Nevertheless we have shown, in its proper place [in the Third Analogy], that community is really the ground of the possibility of an empirical cognition of coexistence, and that one therefore really only infers from the latter back to the former, as its condition.[158]

A more detailed analysis of this text is provided elsewhere (see 6.6). For present purposes, it suffices here to acknowledge that Kant's view of the explanatory link between space and reciprocal interaction did not alter in the transition from the so-called "pre-critical" period to the critical period. (See Diagram 3.5b below.)

[158] *CPuR*, A218/B265.

Whether it is conceptualized pre-Critically as "intelligible form" or in more post-Copernican terms as a formal/schematized "category of the understanding," reciprocal interaction is clearly intended to explanatorily underwrite the empirical representation of space. What's more, it is evident from the text (excerpted from the first critique) that this explanatory link is asserted in a context where the issue is similarly over showing how a world-whole is possible.

Diagram 3.5b:

Kantian Text	Interaction	Status	RelationTo Representer
ID	As Intelligible Form	Real/Objective	Mind-Independent
CPuR	As Category	Real/Objective	Mind-Dependent

As we have already seen, in ID the ideal/real distinction is mapped over the sensible/intelligible form distinction: sensible form (space and time) are ideal, whereas intelligible form (interaction) is real. In *ID*, as it applies to intelligible form, the term 'real' appears to describe something which is genuinely mind-independent, a causal structure, one that is world-constituting; 'real' therefore describes something that exists independently of (or external to) human representational systems. In the first critique, the situation is, however, more complicated. In the next section, I elaborate briefly on various dimensions of Diagram 3.5b.

3.6 The "Critical" Turn: Interaction As Mind-Independent Causal Structure To A Priori Category of the Understanding

Although Kant continues to use the same terms, their meaning requires careful nuancing. Space continues to be an 'ideal' relation and interaction a 'real' relation; however, the meaning of such terms of 'real' and 'objective' appears to be context-

sensitive. In the first critique the concept of reciprocal interaction is referred to under a different identity, namely, that of a "category of the understanding." A categorial concept of the understanding can be either 'pure' (= formal) or "schematized." I'll say more about this distinction in a moment. A category of the understanding (whether formal or schematized) is an *a priori concept* that is conceptualized as a component part of the internal structure of human representational systems.[159]

> We have spoken in ontology of concepts of the understanding the use of which in experience is possible because they themselves make experience possible.[160]

Or, in more contemporary (less Kant-internal) terminology, a category is a very basic conceptual norm, one that is included among a larger set of *sub-personal* conditions, ones that govern (and make possible) certain invariant structures of cognition. (I realize this is pretty vague, but it will do for present purposes.) The *type* of cognition whose invariant structures the categories of the understanding (jointly) determine is discursive cognition, where this can be taken to mean that the (set of) categories, considered as a formal cognitive architecture, are hypothesized as a determining ground, one that is intended to explain (certain invariant structures concerning) the subjective *datum* of our first-personally structured intentional awareness.

Conceptualized as forming the basic structure of human representational systems, the categories would therefore appear to be a *subjective* determinant, so why

---

[159] Kant says: "All human cognition on the side of the understanding is *discursive*, that is, it takes place through presentations that make what is common to several things the ground of cognition, thus through *characteristics* as such" (*Logic*, p. 63-64).

[160] *NF*, 18:247.

would Kant refer to the reciprocal interaction (which appears to be conceptually encoded in the category of community) as a "real relation?" There are various Kant texts that do suggest that Kant thinks that the set of pure categories (ones that have no affiliation whatsoever to sensibility) are absolutely universal, meaning that this particular formal cognitive architecture is shared by every conceivable kind of cognitive subject, including God.[161] The idea is that human beings are finite representational systems of a specific sort; space and time constitute species-relative features of our representational systems; however, the pure categories, when abstracted from their empirical application, are not species-specific. For every alien cognitive subject, a counterpart *Critique of Pure Reason* could be written; but whereas its Transcendental Aesthetic would co-vary for every alien species (of representational system), the book's Table of Categories would be universally invariant.

The formal/schematized distinction (concerning the categories) may do some clarificatory work here. Kant never describes the formal categories as 'real' or 'objective', not, at any rate, with the intention of implying that these concepts can be

---

[161] I am aware of at least two Kantian texts: In the B Deduction (§§26-27), where Kant considers the possibility of 'intellectual' intuition; in the third critique, §§76-77, where Kant considers a supreme intelligence capable of direct intuition. In §77 (of the third critique) Kant says that we can conceive of a intelligence superior to ours and claims, in addition, that the reason it would be cognitively superior is that it would not be restricted to a sensible intuition such as space and time. It is the "sensible" (and species-relative feature) of our perceptual systems (of intuiting under the conditions of space and time) that renders human representational systems inferior to, say, God's, who is not so limited. For a related discussion on the intuitive intellect see Dickerson's *Kant On Representation and Objectivity* (Cambridge University Press, 2004), 160.

used for the purpose of "speculative cognition."[162] Indeed the first critique's chapter on the phenomena/noumena distinction is intended to be a corrective against just this sort of misunderstanding; there, Kant says that the formal categories, though they may have a *logical* content (Kant sometimes says "formal content"), they are "mere forms of thought," where the 'mere forms' seems intended to imply the absence of any *reference relations*.[163]

> The pure concepts of the understanding are related through the mere understanding to objects of intuition in general, without it being determined whether this intuition is our own or some other but still sensible one, but they are on this account mere forms of thought, through which no determinate object is yet cognized.[164]

> Hence it is also requisite for one to make an abstract concept sensible, i.e., display the object that corresponds to it in intuition, since without this the concept would remain (as one says) without sense, i.e., without significance. … That this is also the case with all categories, however, and the principles spun out from them, is obvious from this: That we cannot even define a single one of them without immediately descending to conditions of sensibility, thus to the form of appearances, to which, as their sole objects, they must consequently be limited, since, if one removes this condition, all significance, i.e., relation to the object disappears, and one cannot grasp through an example what sort of thing is really intended by concepts of that sort.[165]

---

[162] Kant explicates the term as follows: "A theoretical cognition is **speculative** if it pertains to an object or concepts of an object to which one cannot attain in any experience. It is opposed to the cognition of nature, which pertains to no objects, or their predicates, except those that can be given in a possible experience" (*CPuR*, A635/B663).

[163] Notice here that I do not say 'empirical reference relations', since this might imply that, by contemplating the formal categories, concept-users can cognitively transcend the limits of their spatiotemporally bound representational systems, and gain cognitive access to a wholly different (= noumenal) domain of objects. This is Plato, however; not Kant.

[164] *CPuR*, B150.

[165] *CPuR*, A240-2.

By contrast, a schematized category appears to be one that has been linked to time and the *a priori* structures of time (e.g., successiveness, duration, simultaneity). A detailed analysis of Kant's controversial notion of a schematism cannot be given here. Suffice it to say here that a schematized category is one that, by having been linked with one of time's three structures, acquires (the possibility of) empirical reference relations to objects. To illustrate how this might be possible, consider the link between the category of community (CAT 3.3) and its affiliated schema:

> The schema of community (reciprocity), or of the reciprocal causality of substances with regard to their accidents, is the simultaneity of the determinations of the one with those of the other, in accordance with a general rule.[166]

According to Kant) every intentional object, any mental entity capable of being presented *to* a cognitive subject *as* one of the system's content-bearing internal states, must be subject the system's cognitive simulation of internality (time exclusively) or its simulation of externality (space-time).

So the basic idea motivating the schematism is that by linking a pure category to one of the formal (= a priori intuitional) structures (of time), the pure category is given the link it needs in order to have empirical reference relations to objects represented at the *content-level* of phenomenal experience, the level where cognitive judgment occurs (as opposed to the subpersonal level, which is precognitive).

> [T]he possibility of the category of community is not to be comprehended at all through mere reason, and thus it is not possible to have insight into the

---

[166] *CPuR*, B184.

> objective reality of this concept without intuition, and indeed outer intuition in space.[167]

The case concerning the category of community (= the concept of interaction) is however rather unique, because it is the intuitional structure of simultaneity that this category has been linked with. Simultaneity relations are relations possible only for two or more entities existing in *space*. Kant repeatedly says that two times can never be concurrent; every part of time is necessarily successive. By contrast, every part of space is, necessarily, contemporaneous with every other part. In ID, as we will see later, Kant selects space over time as the sensible form which is more *world-like.* (A more extended analysis of space and time in a closely related context is offered later (see 6.6).) True, the world is also subject to time, but it is space that Kant uses to conceptualize externality to our (individual) representational systems. For Kant, if space were somehow conceptually negated from our representational life, there would consequently be no system/world barrier, or, at any rate, no way for us to *cognitively simulate* this barrier.

If space is explanatorily underwritten by causal structure (interaction), then given Kant's ideality thesis (that space is "in us"), the question arises as to *how* the real world's causal structure is in a position to determine our system's *internal* cognitive simulation of an external order of relations? Kant certainly does not think that there is some *resemblance relation* between on the one hand our cognitive simulation of a world (and its causal structure) and the real world's causal structure

---

[167] *CPuR*, B292-93.

on the other. Kant certainly does not think, in other words, that we simply *read off* the concept of causal structure from our perceptual experience of the world. This suggestion, however, could not be more *un*Copernican.

The short answer (which is the only one I will give here) is this: According to Kant our system's cognitive simulation of an order of spatial relations can be determined by the world's real causal structure only on the hypothesis that we have an *a priori concept* of that causal structure (the concept of reciprocal interaction), one that is in a position to conceptually determine the system's representation of an external world. On the Kantian hypothesis, space (our system's cognitive simulation of externality) is conceptually underwritten by the a priori category of community, which belongs to a more inclusive set of sub-personal conditions governing our system's cognitive operations. Since Kant conceptualizes the world's real form, as we have seen, in terms of interaction and since, in addition, interaction is (in the first critique) conceptually encoded in *a category of the understanding* (CAT 3.3), it appears that the world for which interaction is the "real" form is the *phenomenal world* -- the world insofar as it is cognitively simulated in our minds.

> The question of whether something is outside me is the same as if I asked whether I represent a real space. For this is something outside me. But this does not mean that something exists in itself, but rather that objects correspond to such *phaenomena*. For in the case of a *phaenomeno* we are never talking about absolute existence. Dreams are in analogy with wakefulness. Except for waking representations that are consistent with those of other people I have no marks of the object outside me; thus a *phaenomenon* outside me is that which can be cognized in accordance with the rules of the understanding. Yet how can one ask whether there are really external *phaenomena*? We are certainly not immediately conscious that they are external, i.e., not mere imaginings and dreams, but we are still conscious that

> they are the originals for all imaginings, and are thus themselves not imaginings.[168]
>
> Space and time are indeed objective with respect to objects, i.e., they represent objects, but only as they are in appearance, but not as they are in themselves.[169]

The meaning-properties of terms like 'real' and 'objective' appear to be context-sensitive (dependent on the concept-user's representational system). Since the phenomenal domain is (for us) the only domain where cognitive reference can be *staged*, a concept's instances (referents, extension) will have to be supplied by this domain; this seems to impose a corresponding constraint on the domain from which a concept's semantic content may be derived.[170] It would therefore appear that the meaning-properties of terms like 'real' and 'objective' would have to be explicated in terms of what does (or does not) occur in space-time. (In fact, Kant appears to be doing this in Postulates of Empirical Thought.) Since interaction is conceptually encoded in the *category* of community, the relational structure this concept refers to must be one Kant could legitimately subsume under the following principle:

> That whose connection with the actual is determined in accordance with general conditions of experience is (exists) **necessarily**.[171]

---

[168] *NF*, 18:172, underscoring added.

[169] *LM*, 29:977.

[170] One issue that arises here is over whether Kant is committed to a *verificationist semantics*, where this is understood to mean that no concept can have any meaning at all which does not refer to something in space or time, a possible object of experience. Unfortunately, in the Dialectic Kant clearly thinks that reason is capable of thinking content-bearing entities (ideals and ideas) neither of which can be instantiated (exemplified) in space (or time). The point requires further discussion, but I will not pursue it here.

[171] *CPuR*, B266. See also B269.

When Kant uses these terms to describe the world's causal structure (interaction), he is referring to that causal structure as a "general condition of experience," a deep-structural feature of our simulation of a world, one that is *invariant* for all human representational systems.

3.7 Hypothesizing Relationally Constituted Substances From Interactive Structure

It is my contention that there is an additional level of explanation being referred to (albeit somewhat more implicitly) in the *ID* text under analysis and, moreover, that this additional level is carried over into the critical period. Consider the second italicized statement (of the *ID* text):

> The hinge, then, upon which the question about the principle of the form of the intelligible world turns in this: to explain how it is possible *that a plurality of substances should be in mutual interaction with each other*, and in this way belong to the same whole, which is called a world.[172]

This text is not as clear as one could wish. There does, however, seem to be an illicit shift in the focus of explanation? We began originally with the *datum* of space; then we acknowledged that space was entirely inadequate to ground the world-constituting connections among a plurality of entities. That leads Kant to hypothesize a second (intelligible) relational structure, one explicated in terms of reciprocal interaction. Now, however, Kant appears to be asking for a further explanation, namely, of this causal structure; in addition, he suggests that obtaining this additional explanation is the "hinge ... upon which the question about the principle of the form of the

---

[172] *ID*, §16.

intelligible world turns ... ," thereby implying that the two explanatory enterprises are not independent of each other. How do we incorporate these evident textual facts into the interpretation we are currently developing? We can do so by acknowledging a much larger explanatory framework, one that will be introduced in chapter 4 and later analyzed in somewhat more detail in chapter 5.

The aim here is not to offer a detailed analysis of this explanatory framework; rather the aim is to provide a more compressed representation of this framework with the intention of displaying some of its main structural components. One of the major structures of this explanatory framework is that it is a *multi-grade* framework. To see what is meant by this, consider that reciprocal interaction is a causal relation and therefore a species of relation; since Kant believed that relations are ontologically derivative on their *relata*, no actual relation can exist independently of the actual entities that have (or, at any rate, stand in) those relations. A causal structure, one explicated in terms of reciprocal interaction, makes heavy demands on its relata; these entities have to possess complementary causal powers (see 8.5-6).

For Kant, only *substances* can possess (and exercise) causal powers. It would therefore appear that the world's intelligible form (interactive structure) requires an operative conception of substances, one that is serviceable to the conceptualization of this type of causal structure. This might turn out to require quite a sophisticated conception of substance, one that requires both a model of the substance's internal structure as well as a model of its external relations to other substances. This operative conception of substance, however its precise content is to be determined,

will contribute significantly to the model of interaction. (I develop Kant's model of interaction in chapters 7 and 8.)

Making matters more complicated are the Kant-internal conceptual constraints under which these models must be constructed. For instance, Kant holds self-activity to be essential to substancehood; so the models of a substance's interior and of its external relations have to square with our conceptions of causal agency, ones deriving in part from our subjective first-personally structured experience of rational agency (see Chapter 7). And in view of the substance-concept's reliance on our subjective conceptions of agency, the issue arises over its empirical application and scope, particularly to nonhuman natural kinds. This issue is amplified in light of the explanatory (or grounding) function that Kant intends reciprocal interaction to perform vis-à-vis the empirical representation of space. Since if a conception of substance goes hand-in-glove with Kant's model of interaction and if, in addition, interaction is intended to explanatorily underwrite space (insofar as it contributes to the cognitive representation of the world-whole), then the content of this operative substance-concept (however subjective its source may be) would therefore appear to have a legitimate cognitive significance. In foregoing chapters, the aim is to spell all this out in some detail.

Chapter Four

KANT'S RESPONSE TO CRUSIUS

4.0 Introduction

In chapter 3, we saw how Kant refers to reciprocal interaction as the causal structure that explanatorily underwrites the empirical representation of space. This causal structure, which is intended as the ground of a community of substances, appears to go hand-in-glove with Kant's physicoteleology. Kant claims that a community of substances is possible only under the hypothesis of a prior *idea* or *conception of a whole* as the ground of their causal interaction. From this, Kant infers that a community of substances is possible only on the hypothesis that God exists as architect and creator of the world-whole.

An examination of Kant's reaction to Crusius is useful because it provides us an angle from which to triangulate on Kant's model of interaction and, more specifically, his conception of substances. Since, as we will see, it is the *community* (of multiple substances) that apparently grounds the hypothesis of an idea or conception (of a whole) and since, in addition, Kant explicates this community in terms of reciprocal interaction, the rational need for such a hypothesis must derive ultimately from his model of interaction and its operative substance concept. As we will see, under the model of interaction what a substance *is* (or, at any rate, what it must be if it is to part of one common world) is determined by its interrelations with other substances. And it must be this actual *interdependency* (one that could not have

been caused by any number finite substances themselves) that entitles reason to hypothesize God as the intentional ground of their interaction.

The plan of the present chapter is as follows. The common aim of the following sections is to examine various precritical texts bearing relevantly on Kant's response to Crusius with the intention of laying out his response in a general way. This will accomplish a number of things: first, it will establish that the development of a larger explanatory framework is part of Kant's response and will, in addition, allow us to see how Kant uses; second, it will link reciprocal interaction to this larger explanatory framework; third, it will provide textual documentation for both of these linkages. An initial examination of these precritical texts is therefore foundational to more detailed analyses both of the larger explanatory framework and of its subsidiary (the model of interaction), which are to be provided in subsequent chapters.

4.1 Kant's Attack On Crusius

Kant appears to mention Crusius only infrequently, but it's clear that Crusius' work exerted considerable influence on much of Kant's precritical theorizing.[173] Crusius' influence can be seen in at least two of Kant's published precritical works, namely, *New Elucidations* (New Eluc) and Kant's *Inaugural Dissertation* (ID). In transcripts of Kant's lectures on metaphysics, there are, in addition, various discussions concerning the conditions of worldhood. Kant and Crusius formed a united front against those who (with Leibniz) would assert that a multitude of

monads, none of which are actually causally connected, constitutes a real world; they, by contrast, believed that in order for a multitude of entities to constitute a world, these entities must stand in some sort of "connection."

Kant and Crusius appear to have differed, however, on the issue over how to this "connection" requirement (for worldhood) may be met. According to Crusius the following inference is valid:

There is a plurality of substances.
There is a community of substances.

Crusius thinks that from the mere *existence* of multiple substances, concept-users can validly infer that these entities constitute a world. Kant, however, does not agree. By itself, the existence of multiple substances does not (says Kant) constitute a *world-whole* (a "community") of substances. What else is required? As remarked, Kant's ID analysis of the concept of a world in general yields three conceptual components: parts (substances), form (relational structure), and absolute completeness. Kant's disagreement with Crusius should, I suggest, be understood in light of this analysis.

The issue over the logical correctness of Crusius' inference seems to turn in part on the differential in semantic content of the operative terms 'plurality' and 'community'. Clearly, for Kant the terms 'plurality' and 'community' are nonsynonymous terms. The term 'community' sometimes appears in Kant's work to be used interchangeably with 'world-whole'; moreover, as we have seen, Kant affiliates 'community' with the concept of reciprocal interaction. In this context, the

[173] And I do not mean to imply that the influence Crusius exerted Kant is restricted to Kant's pre-Critical works. For a related discussion on the pre-Critical/critical barrier see section 1.2.

term 'community' is sometimes used to refer to a property (communality) that would only apply to multiple existing substances on the condition that they were in fact *parts* of a single causal structure. By contrast, term 'plurality' is frequently used to refer to a (mathematizable) set of aggregated entities, one where none of the "members" has any "internal relation" to (thus no dependency on) any other member.

In view of these semantic differences, it would appear that Crusius' inference purports to be both *a priori* and *synthetic*. Crusius would appear to be asserting that the proposition 'multiple substances exist' analytically contains the proposition 'multiple substances are connected (in community)'. The implicit assumption in Crusius' inference appears to be this: that the multiple substances whose existence is asserted are ones implicitly thought to exist (and be positioned in) one relational matrix, namely, space. On this assumption, a "community" of substances appears to follow from the *mere existence* of a multiple substances because it is in one whole-Space that these multiple entities exist. Here's the inference made more explicit:

> There exists a *plurality* of substances
> (They all exist in one whole-Space)
> There exists a *community* of substances.

On Kant's view Crusius thinks he can validly infer a community (of substances) from a mere plurality because the latter, first, assumes one absolute (and empty) whole-Space and, second, he refers the plurality of existing entities to this domain. The result is that it looks like the resulting community (of substances) is derived from the multiple existences of its members.

Under this account of Crusius' inference, he is not using 'existence' in an ontologically-neutral way but rather is using it more narrowly to mean 'existence-in-one-space'. On this reconstruction, Crusius seems to be taking the existence of space entirely for granted and, in addition, appears to conceptualize it as a sort of mind-independent cosmic container. But as we have seen (see 1.4) Kant does not think that space is mind-independent, nor does he think that space is explanatorily adequate to ground the connection among a plurality of substances. Indeed, he thinks that space is a *datum* to be explained (explanandum), one that requires hypothesizing "intelligible form" (interaction) as a prior ground. Maybe there is, however, another reconstruction under which Crusius inference would be valid. If so, it appears that it would have to trade on a conception of space as an *emergent matrix*, one that is entirely contingent on the existence of its relata (= the multiple substances).

Here there seem to be a sort of dilemma, both horns of which constitute violations of *the principle of sufficient reason*. The first horn of this dilemma is this: Suppose that space is an order of *non-intrinsic* relations among a plurality of entities. Then conceptually it would be possible for these entities to exist independently of that relational structure. In that case, having any connection to other entities would not appear to be *essential* to what these entities are. From this we could infer that each is an independent stand-alone type of entity. The issue (under this scenario) would therefore be *why* an order of relations would come into existence *as part of the bargain* of positing the existence of these multiple metaphysically independent entities. There seems to be no explanation *why* a relational structure should burst

forth into existence along with these multiple entities. Why should the existence of multiple (independent stand-alone) entities imply two items: a number of those entities *plus* something else, a matrix of relations? Under the current scenario there would seem to be no answer, which is a violation of the principle of sufficient reason.

Suppose (on the other hand) that hypothesizing these multiple entities *does* inferentially (= analytically) result in the desired *package deal*, viz., the multiple entities *plus* something else (= an order of relations). Kant's point seems to be that this "something else" must have been implicitly entailed in the conceptualization of those same entities. In that case, concept-users would not be *explaining* the connection of multiple substances by reference to their mere existences because the community-making feature would have already been contained in the operative conception of substance (one that implies that they are not independent stand-alone substances). So if the inference follows merely from the existence of the multiple substances, that can only be because these entities already exist in some connection; in which case you don't succeed in explaining (noncircularly) the datum (=their connection) in terms of their multiple existences.

Kant's explanatory model is intended as an alternative, one that would not be tautological if the connection among a plurality of substances could be referred to under two nonsynonymous descriptions, namely, one *spatial* the other *causal*. As we have seen, Kant views space as an internal cognitive representation of an external order of relations; this external order of relations is referred to under the description of a (two-way) causal structure, one Kant describes as reciprocal interaction. Kant

therefore explains the datum of space (a spatial order of relations) by reference to a second order of relations (a causal structure). The first is subjective and ideal; the second is objective and real. But, as we will see, membership in a causal structure imposes its own demands on its relata: they cannot be metaphysically independent entities. Moreover, in order for substances to be capable of in a reciprocal interaction, their individual causal powers must be coordinated and harmonized, a condition that Kant thinks can only be met by hypothesizing a prior determinant, namely, God.

4.2 Kant's Response To Crusius

By a 'response to Crusius' I am referring to a more inclusive body of Kant's writing (of issues and concerns) than those that are concerned primarily with his negative attitude toward Crusius' *inference* (see prior section). These include any constructive effort Kant makes to solve the problems both he and Crusius were concerned with, namely, with conceptualizing the conditions under which a real (as opposed to merely ideal) world is possible. As remarked, Kant claims that in order for a plurality of existing substances to constitute a world, there must be some *form* (a relational structure) in which these entities can be connected. For Kant, this relational structure is to be explicated in terms of reciprocal interaction. In his earlier precritical work *New Elucidations*, Kant says:

> I think that I am the first to have established, by means of reasons which are in the highest degree certain, that the coexistence of the substances of the universe is not sufficient to establish a connection between them. There is

> required, in addition, a certain community of origin and, arising therefrom, an harmonious dependence.[174]

Kant appears to argue for (what I have referred to as) a second order of explanation, one directed at explaining the world-constituting interaction among a plurality of substances. Later, in *ID*, Kant says:

> If a plurality of substances is given, *the principle* of a possible *interaction* between them *does not consist in their existence alone*, but something else is required in addition, by means of which their reciprocal relations may be understood. For they do not necessarily related to anything else simply in virtue of their subsistence, unless, perhaps, they relate to their cause. But the relation of caused to cause is not interaction but dependence. Therefore, if any interaction should occur between them and outer things, a special ground, which determines this interaction precisely, will be needed.[175]

There is considerable cross-textual agreement on this issue. Kant maintains essentially the same position in his lectures on metaphysics. For example, in the Herder transcript, Kant's argument is distilled as follows:

> To the connection <*nexu*> of the things in the whole belong *not merely the existences of the things*. -- It is always asked with this whether they constitute a whole <*totum*>, since each could exist alone. If they are many and coexistent, then they do not immediately have community on that account. Thus for a connection *something special, reciprocal interaction <mutua actio>*, is still required. For it is not possible for two substances without connection <*nexu*> to effect one another. -- For without connection <*nexu*> nothing that takes place in A can have a consequence in B. Thus if a substance in its existence does not depend upon another: then substances could exist without connection: *when two substances effect each other: then A and B must necessarily depend upon C*, otherwise nothing in existence could follow in B from A: but from that, that their existence depends upon a third: it does not yet follow that they must be in connection <*in nexu*>: their *connection still requires a special ground: a special action still* of the creator, since he connected them. Thus, *the state of diverse substances that each acts on and suffers from the others* (interaction <*commercium*>) has *a special*

[174] *New Eluc*, 1:413-4.

[175] *ID*, §17.

ground in God, who *willed that they should depend on upon one another*.[176]

Because this text offers us a convenient (and somewhat less technical) access into Kant's argument, I'll start with it. The aim is essentially to begin sketching a rough composite from various Kantian texts. Each text provides a different angle on the argument Kant is giving, and it is illuminating to cross-examine them. What is Kant's reasoning here?

In order to constitute a world-whole, substances must stand in some sort of "connection." Here (as elsewhere, for instance in ID) Kant explicates 'connection' in terms of reciprocal interaction, so that the additional requirement converting a mere aggregate of (otherwise metaphysically isolate) entities into a community (or whole) is reciprocal interaction. But certain things must be true of substances in order to count as *relata* of a (two-way) causal structure. In the case of interaction, substances must be mutually dependent on each other; moreover, they cannot exist independently of this connection. Kant argues that, *given* substances are comembers of a relational structure (explicated in terms of reciprocal interaction), then some "third thing," is required:

> *when two substances effect each other: then A and B must necessarily depend upon C,* otherwise nothing in existence could follow in B from A. . . .[177]

Kant says: Some third thing (C) is the condition under which a multitude of substances stand in relations of reciprocal interaction. Kant doesn't say why; yet he does seem to endorse the following inference:

---

[176] *LM, Metaphysik Herder,* 28:51.

> Several substances stand in relations of reciprocal interaction.
> There exists some third thing (C) in virtue of which they do so.

If we get a better grip on what this third thing, C, is we may be able to command a clearer view of why Kant thinks this inference goes through. In this citation, there is no specification of what C is. Kant moves directly onto yet another (and final) requirement. It is this:

> but from that, that their existence depends upon a third: it does not yet follow that they must be in connection <*in nexu*>: their connection still requires a special ground: a special action still of the creator, since he connected them.[178]

All we are told is that it the interaction is grounded on an intentional cause, God:

> Thus, *the state of diverse substances that each acts on and suffers from the others* (interaction <*commercium*>) has *a special ground in God,* who *willed that they should depend on upon one another*.[179]

First and foremost we want to know why Kant thinks that from the fact that a plurality of substances stand in relations of reciprocal interaction concept-users can infer (or posit) "some third thing" as the condition under which substances can stand in causal relations of that sort. And in order to know that, it could only help if we have a better grasp of what this third thing is.

Then, in light of our specification of what this third thing (C) *is,* we could ask what it is about reciprocal interaction that requires concept-users to hypothesize this third thing.

---

[177] Ibid., 28:51.

[178] Ibid., 28:51.

[179] Ibid., 28:51.

4.3 "The Schema of the Divine Understanding"

In *New Elucidations*, Kant presents his "Demonstration" for "The Principle of Coexistence." It is cited in full in order to exhibit the similarity Kant's concerns:

> *Demonstration.* Individual substances, of which none is the cause of the existence of the other, have a separate existence, that is to say, an existence which can be completely understood independently of all other substances. If, therefore, the existence of some substance or other is posited simply, there is nothing inhering in it which proves the existence of other substances distinct from itself. But since a relation is a relative determination, that is to say, a determination which cannot be understood in a being considered absolutely, it follows that a relation and its determining ground can neither of them be understood in terms of the existence of a substance, when that existence is posited in itself. If, therefore, nothing further than this were admitted, no substance would stand in relation to any other substance, and there would be no interaction at all between substances. Since, therefore, in so far as each individual substance has an existence which is independent of other substances, no reciprocal connection occurs between them; and since it certainly does not fall to finite beings to be the causes of other substances, and since, nonetheless, all the things in the universe are found to be reciprocally connected with each other -- since all of this is the case, it has to be admitted that this relation depends on a communality of cause, namely on God, the universal principle of beings. But it does not follow from the fact that God simply established the existence of things that there is also a reciprocal relation between those things, unless the self-same scheme of the divine understanding, which gives existence, also established the relations to things to each other, by conceiving their existences as correlated with each other. It is more clearly apparent from this that the universal interaction of all things is to be ascribed to the concept alone of this divine idea.[180]

This Kantian text is very dense, and there are number of things to be extracted from it. It can be divided into two parts, a *negative* and a *positive*. The negative aspect of the argument consists in Kant's giving reasons why a plurality of substances isn't logically equivalent, or, at any rate, isn't logically sufficient, to posit an

[180] *New Eluc*, 1:413-4, underscoring added.

interconnection among them. The positive aspect of the argument is what's needed in order to be justified in positing that connection.

Notice that in spite of any differences in actual premises or in the formulation of those premises, this text is strikingly similar to the Herder transcript in a number of respects. In both Kant argues that from the mere existence of a plurality of substances, you cannot infer that they are connected. More is required. And both texts agree on what that is. Both agree, that is, on how that connection is to be explicated, namely, in terms of reciprocal interaction and, in addition, in how the connection among substances is to be explained. Both texts agree on the fact that God must be posited as a "ground" on which that reciprocal interaction is possible. But the *New Elucidation* text (and not in the Herder transcript) explicitly introduces something else: "the universal interaction of all things is to be ascribed to the concept alone of this divine idea."

> The schema of the divine understanding, the origin of existences, is an enduring act (it is called preservation); and in that act, if any substances are conceived by God as existing in isolation and without any relational determinations, no connection between them and no reciprocal relation would come into being. If, however, they are conceived as related in God's intelligence, their determinations would subsequently, in conformity with this idea, always relate to each other for as long as they continued to exist.[181]

I submit that we have an answer to the first question of the preceding section, namely, what Kant means when he says some "third thing", C, is required in order for substances to stand in relations of reciprocal interaction. It is the divine idea or schema. In this context, the "divine schema" or "idea" is being hypothesized to

[181] Ibid., 1:414.

account for the plurality of substances that stand in relations of interaction. But what is the idea an idea *of*? In the present citation, Kant does not explicitly state that the divine idea is the idea *of a whole*. Elsewhere, I present good textual evidence for the claim that Kant explicates (if not defines) the concept of a whole using the concept of reciprocal interaction. (See 5.2) Now we have additional textual evidence that we can use to triangulate on what Kant thinks the divine idea is an idea *of*: it is the idea *of a whole,* one that is supposed to explain *why* a multitude of substances stand in relations of reciprocal interaction.

4.4 Ontological Independence Or Embeddedness In Causal Structure (But Not Both)

Kant's attack on Crusius' inference (below) seems to consist in showing that Crusius illicitly switches from one conception of substance to another (to one that is incompatible with the first) in order to make the inference from (1) to (2). The switch, as I understand it, is from a conception of substance, where they are entirely independent stand-alone entities (which are united in space) to one where there are metaphysically interdependent entities, to such an extent that they owe their very identities to their relations with other substances. The relation of metaphysical interdependence among a plurality of substance is conceptualized as a composition relation, one where the substances are reciprocally related as parts of one common whole (a "world-whole").

To begin with, I return to what I will refer to as the "negative" aspect of the *New Elucidation's* "Demonstration." The first part argues the *negative* thesis that essentially denies this inference

(1) <u>There exists a plurality of substances.</u>
(2) There exists a community of substances.

As observed, Kant denies that this inference is valid. And in the *New Eluc* text, he appears to argue on grounds that go something like this: If a substance can be *completely understood* independently of any other substance, that is without cognitive or semantic reference to any other existing entity, then positing a plurality of these stand-alone substances is equivalent to positing a plurality of independent stand-alone substances. That is, if concept-users can understand, can conceptually grasp *what* the substance *is*, without reference to any other substance -- if what the substances is, its identity, does not depend on its having any relations to other substances -- then positing a plurality of these entities does not imply or entail that they stand in any connection. So long as the conceptualization of a substance is that of an independent substance that does not depend on reference to any other to be "completely understood" as the substance it is, concept-users can multiply instantiate this concept until the cows come home and never end up with anything logically equivalent to a "community" or "*world-whole*;" because a world (according to Kant and Crusius) requires actual interconnection among substances. But for that to be the case, I will offer an interpretation according to which Kant thinks that we have to alter our conceptualization of what a substance is and rethink the conditions of substancehood.

Further textual evidence for this interpretation on Kant's negative argument can be found within *New Elucidations,* where Kant provides his own gloss on the "Demonstration:"

> For, to repeat briefly the main line of demonstration: If substance A exists, and if, in addition, B exists, then this latter can be considered as positing nothing in A. For suppose that it contained in the ground of a determination C. Since this is a kind of relative predicate and hence not intelligible unless A is present, in addition to B, it follows that substance B will, in virtue of those factors which are the reason of του C, presuppose the existence of substance A. But since, if substance B existed alone, its existence would leave it completely indeterminate whether a certain substance A would have to exist or not, it will be impossible to understand from the existence of B alone that it posits anything in other substances distinct from itself. Hence there is no relation and no interaction at all.[182]

Kant appears to move from an epistemic situation -- i.e., our not being able to determine from substance B alone whether there are other existing substances -- to the metaphysical conclusion that "there is no relation or interaction at all." For the moment, let us put this concern aside. Instead I want to draw attention to Kant's emphasis on whether a substance be can be "completely understood" or "considered" as existing without any semantic or conceptual reference to another substance. And Kant's answer seems to be that, if B is a substance of a sort that to understand what it is does not demand concept-users to posit another substance A, then it must be because B has no "relative predicates," in which case B can be understood as possessing an entirely independent stand-alone existence. But if substance B has no relative predicates, how could it be thought of as connected to other substances? Would substance B be a substance of a sort that was *capable* of standing in relations

[182] Ibid., 1:413-14, underscoring added.

of reciprocal interaction? If we read Kant as answering 'no' to this capability question, it would help to illuminate why he concludes: "[h]ence there is no relation and no interaction at all."

I think the argument being made goes something like this: If we posit a plurality of substances under a conceptualization of substance according to which each is an independent stand-alone entity, one that can be "completely understood" without semantic or cognitive reference to another substance, then not only would there not be any relational structure connecting these substances as part of the bargain of positing them; there *couldn't* be any relational structure connecting the members of this plurality. Since if a relational structure were included as part of the bargain of positing the *mere existence* of a plurality of substances, that would only show that the members of that plurality could not exist (or so much as *be* the substances they are) independently of that relational structure. In that case, however, they could not be independent stand-alone substances. So, one of Kant's points here seems to be that to think (1) implies (2) involves illicitly *switching* from a conceptualization of substances as independent stand-alone entities to one where they are not so independent.

4.5 Semantic/Conceptual Dependency Among the World's Substance-Parts

There is another interesting implication here. As observed Kant seems to think that it is a mark of a substance's independence stand-alone status that it can be "completely understood" without semantic or cognitive reference to other substances.

So if concept-users want to think of a plurality of substances as members connected in a relational structure (as demanded the datum of sensory experience), the condition under which they may do so is to strip the members of that plurality of their ontological independence. But in order do that they are required to switch from a conceptualization of substance under which a substance can be *completely understood without presupposing the existence of any other substance* to one under which individual substances do not enjoy that degree of semantic or conceptual independence from other substances.

Later in *ID* Kant reiterates his earlier attack on Crusius' inference from a plurality of existent substances to the existence of a community of substances, except in *ID* Kant appears to argue the point in more semantic terms. When concept-users assert the existence of a plurality of substances their assertion semantically unpacks (or rather *refracts*) into a plurality of singular propositions each one asserting the separate existence of a single independent stand-alone substance. Repeatedly assert the existence of a single (but different) stand-alone substance as many times as you like: there is no implication that the singular referents thereby accumulated -- the independent stand-alone substances whose existences you have successively asserted -- stand in any relation at all, not one at any rate that would logically prevent us from thinking of the members of that plurality as so many (single resident) worlds.

> For 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 happened to be certain wholes consisting of substances, and if these 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.[183]

The basic idea here seems to be this: Suppose a plurality of substances enjoyed an "ideal unity" in one mind, that they all existed in a single intentional consciousness. Or, to be more precise, suppose that there was one mind (God's, say) in which there existed a plurality of representational contents, each of which intentionally targeted an independent stand-alone substance. Would a plurality of these singular representations count as the representation *of a whole* just by virtue of the fact that each is a representational content belonging to the same mind? Kant's says no. All you would have, says Kant, is a whole lot of singular representations united in one mind and that the things they are representations *of* -- the represented substances -- cannot be thought as standing in any metaphysical connection just because each is being represented in and by the same mind.

I take Kant's point here to be semantic or conceptual, not epistemic. The issue here isn't over whether a mind can trust its internal representational processes as a basis on which to make cognitive judgments about what a mind-independent reality is like. No, the issue is over what it takes for a representational content to count as an intentional content *directed at a whole* (as opposed to a mere aggregate of unconnected entities). Kant is making a conceptual clarification here. If an exhaustive inventory of God's mind were undertaken and yielded only a whole lot of singular representations whose semantic referents were independent stand-alone

[183] *ID*, 2:390-1.

substances, you would not find in that mind any content-bearing state whose *intentional object* is that of a whole made up of those substances.

The implication of the above ID text seems to be that in order to get a representational content to be the representation *of a whole,* the mind in question would have to cognitively refer to a plurality of substances in the right sort of way, one where the individual members were *thought* under a description in which they were already conceptualized as parts of a common whole. But this demands that concept-users have a cognition (or, at any rate, an operative conception) of the real whole *first*, as a condition of cognizing its substance-parts. In that case, concept-users would have to assert the existence of a real whole and then subsequently make an inference *to* the existence of the substance-parts. But, again, if the relational structure is part of the bargain of asserting the mere existence of a plurality of substances, that only shows they cannot *be* substances of the sort that they are independently of that relational structure.

Kant seems to be saying that in order to conceptualize an entity as an independent stand-alone substance, concept-users must think of that entity as having *no* relative predicates, none, at any rate, that would require them to posit the existence of another substance, or that would *matter* to the substance's being what it essentially is. Two issues arise here: First, whether Kant thinks that *were* a substance to be conceptualized as a member of a reciprocal causal structure, whether this would this require the entity to have relative predicates (answer is obviously yes) and, second, whether these relative predicates (ones a substance derives from its membership in a

causal structure) would make a significant conceptual contribution to what a substance fundamentally *is* (answer also seems to be yes, but less obviously so). (A detailed analysis of these issues comes later.)

Without intended to Kant has, in effect, indirectly explicated his concept of reciprocal interaction. Membership in a reciprocal causal structure appears to require that the relata forfeit their ontological independence. (As we will see shortly, Kant makes this more explicit in the Vigilantius transcript.) *If* the members of the plurality are required to forfeit their status as ontologically independent stand-alone substances in order to be comembers of a single relational structure (thereby constituting one world-whole), then this would tell us something about what the relational structure must be *like*. It would imply that the relational structure, one, at any rate, able to constitute *a world*, imposes conceptual demands on the entities that are to be parts of it.

4.6 Larger Architectonic Issues: Natural Organisms As Models of Relational Structure

It is interesting to point out that later, in a first critique context (specifically, in the Clue, Schematism, and the Third Analogy), the concept of reciprocal interaction is listed among "the categories of the understanding." There, however, the concept of reciprocal interaction is referred to under a different name, viz., "the category of community" (CAT 3.3). The mere fact that the concept of reciprocal interaction is, in a first critique context, elevated to the status of a (pure/schematized) category of the understanding indicates that Kant intends it to be part of his account of the a priori

conditions under which cognition is possible. It's inclusion among the a priori categorial concepts of the understanding therefore constitutes (at the very least) *prima facie* evidence for the suggestion that the role Kant intends for the concept of reciprocal interaction is a cognitive one.

One key issue that arises here is whether the model of interaction (as I reconstruct it) is conceptually encoded in the first critique's category of community and, if so, whether that model can be used to illuminate the philosophical point of the Third Analogy. Supposing the model of interaction to be encoded in the category of community, another issue is over whether there are any empirical objects (= phenomenal contents) able to meet its conceptual requirements.

If it turns out that for something to *be* a substance at all it must stand in relations of reciprocal interaction and if, in addition, comembership in relational structure of this sort required that the causal efficacy of its members were metaphysically interdependent, then it would do a good deal toward explaining why natural organisms come to predominate in the third critique (and later in the *Opus Postumum*) as a "special class" of natural product. Natural organisms are material wholes of a special sort: on the one hand each is a composite entity, whose ontological status is, like every material composite, dependent on the prior existence of its parts; on the other hand, each whole-organism is a singular individual, made up of substance-parts whose individual causal powers and functioning cannot be determined except by reference to the other parts and to the specific whole-organism (of which they are parts). Natural organisms have uniquely systematic material

infrastructures, ones in which these norm-governed parts are functionally interdependent. This would appear to make them especially amenable to the concept of reciprocal interaction.

Indeed it may be that natural organisms are (in Kant's mind, anyway) entities of a unique sort, ones uniquely capable of meeting the requirements imposed by a relational structure that is explicated in terms of reciprocal interaction. If that's true, there may be an illuminating angle to take on why (in the third critique, for example) natural organisms do in fact possess such significance for Kant. We may be able to view the significance these phenomena have for Kant as a *cognitive* one. Suppose that natural organisms constitute a unique class of entities such that each member of this class is an individual whole-organism whose internal composition is capable of *modeling* (in empirical-phenomenal reality) the very same relational structure Kant uses to conceptualize a world-whole, namely, one explicated in terms of reciprocal interaction.[184] Every object would (under this hypothesis) have to be a structural complex (to some extent); every intuited[185] (ever substance) would therefore be a singular individual yet also a composite entity. Being a singular individual would consist in *modeling* a particular sort of structural complex, one that is to be explicated as a plurality of entities whose interrelations are conceptualized under the model of

[184] A plausible case can be made for this assumption. See "Confirming the Implicitness of the Model." The internal composition of a natural organism is composed of substance-parts embedded in a relational structure (one explicated in terms of reciprocal interaction). Kant's model of interaction functions, under my view, as one all-purpose template for conceptualizing multi-scale environments of every magnitude, whether nano, micro, macro, or cosmic in scale. This is because Kant uses the concept of reciprocal interaction to explicate the ontological concept of a whole.

interaction. Individual objects (substances) would therefore be required to model *in propria persona* the type of causal structure described by that model.

On this assumption, one dimension of Kant's interest in natural organisms (in the *Opus* and particularly in the third critique) could therefore be seen to derive from the fact that these phenomena succeed (in his mind, at any rate) in empirically instantiating the concept of reciprocal interaction. Under this assumption, Kant's interest in natural organisms would therefore be due to a perceived discursive link between a concept (=that of reciprocal interaction) and a set of empirical objects (=organisms), such that the link between the two is seen as the relation of *universal* to the *particular* (concept and instance). Under the (plausible) assumption that the model of interaction is conceptually encoded in the category of community, the significance attaching to the class of natural organisms would therefore be a cognitive one, because members of this class would uniquely represent cases where the concept of reciprocal interaction (= the category of community) had succeeded in being empirically applied.

[185] I'm using this term as a noun (not a verb): an intuited = that which is intuited. Coining this use is Jay Rosenberg's helpful terminological innovation.

Chapter Five

KANT'S PHYSICOTELEOLOGY: AN EXPLANATORY MODEL

5.0 The Forfeiture of a Substance's Ontological Independence

Does membership in the world's relational structure (in Kant's mind, anyway) require the forfeiture of substance's status as an independent stand-alone substance? The conceptual advantage of this forfeiture would appear to be that it logically frees substances up to be conceptualized as integral *parts* of a common whole. Once substances are conceptually stripped of their ontological independence they can thereby be imputed with "natures" that are functionally inter*de*pendent. According to Kant it is in the general nature of a substance to be an active sort of entity, the possessor of causal powers. The forfeiture of a substance's ontological independence would therefore imply that the exercise of its own causal powers is functionally dependent on the basic structure and causal powers of *other* substances.

The aim of the present chapter is to examine textual evidence in order to determine, first, whether Kant thinks substances *do* indeed have to forfeit their ontological independence in order to be parts of one world-whole (the answer seems to be yes) and, second, to determine whether his reasons for thinking this can be plausibly linked to the concept of reciprocal interaction (the answer also seems to be yes). As we will see shortly, Kant's remarks about the ontological status of "necessary substances" occur within a larger context in which the aim is to develop an explanatory framework, one in which the datum (= the empirical representation of

space) is to be explained by, first, hypothesizing a community of substances (all of whom stand in relations of reciprocal interaction) and, second, by hypothesizing an ultimate ground for their interaction. The aim now is to show how each of these hypotheses is linked to Kant's physicoteleology.

5.1 Why Is The Forfeiture of a Substance's Ontological Independence Necessary?

In *ID* the issue concerning a substance's ontological status is introduced as an issue over whether substances, either necessary or contingent, can be parts of a whole. Kant says necessary substances cannot be parts of a whole; so they cannot stand in composition relations with other substances.

> *A whole consisting of necessary substances is impossible*. For the existence of each substance is fully established without appealing to any dependence on anything else whatsoever, for such dependence does not belong to necessary things at all. And, thus, it is clear that not only does the interaction of substances (that is to say, the reciprocal dependence of their states) not follow from their existence, it cannot belong to them as necessary substances at all.[186]

In the *Vigilantius* transcript of Kant's lectures on metaphysics, this issue comes up again, but the larger explanatory context in which the issue arises is made more explicit. Kant states:

> The substances in the world must have a reciprocal influence on each other, i.e., stand in real connection <*in nexu reali*>, which can take place only through a reciprocal action on each other. This real connection through interaction <*nexu realis per commercium*> would not be possible to assume among the things if one thinks them though the understanding as existing in themselves. The substances would exist each for themselves without any relation and connection among one another. Therefore a real whole <*totum*

[186] *ID*, §18

> *reale*> of necessary substances cannot be thought at all. For then none is dependent on another with respect to its being, each exists for itself because each has its necessary adequate ground of its existence in itself: many necessary substances would thus have no connection among themselves, each can be only a world for itself and the basic cause of a world, but it could not stand in the slightest connection with another world and the things in it, e.g., many gods. All such substances would thus be unconditioned and determined by themselves, but each isolated by its absolute necessity. Since accordingly their connection among themselves cannot be assumed directly, and without hindering their necessity, then one can do nothing else, in order to think this, than to derive their existence from a general communal primordial source, which is the general power for the general effecting of all things. But through this the latter become dependent on it, and contingent in themselves, they are connected with each other by this general cause, and therefore there arise a reciprocal connection and community with each other through the communal cause, since an action of a united being was necessary in order to produce them all, and in this manner the real connection <*nexus realis*> arises.[187]

In both the *ID* text and the Vigilantius transcript Kant makes it clear that there couldn't be a whole (or "community") composed of necessary substances because if they are indeed necessary, they "could not stand in the slightest connection with another world and the things in it." Notice that in the Vigilantius transcript Kant says that necessary substances cannot even be *thought* of as parts of a single whole. To think of a plurality of substances as standing in 'connection' (explicated as reciprocal interaction) with other substances logically negates its status as a necessary substance.

> For then none is dependent on another with respect to its being, each exists for itself because each has its necessary adequate ground of its existence in itself: many necessary substances would thus have no connection among themselves, each can be only a world for itself and the basic cause of a world, but it could not stand in the slightest connection with another world and the things in it, e.g., many gods. All such substances would thus be

[187] *LM, Metaphysik Vigilantius* (K_3), 29:1007.

> unconditioned and determined by themselves, but each isolated by its absolute necessity.[188]

Kant's reasoning is that a condition of being a member of a community of substances is for one member to be causally dependent on another; however, no *necessary* substance could be so dependent; therefore, only contingent substance could qualify as members of a reciprocal causal structure. The basic idea here is that were any substance to be embedded in a causal structure *of any sort* (whether reciprocal or not), it would undergo a self-reduction; it would lose its godlike status because it would be causally dependent on other substances.

Later in *ID* Kant comes to much the same conclusion:

> Accordingly, a whole consisting of substances is a whole which consists of contingent beings, and the *world, in its own essence, is composed of mere contingent beings*. Furthermore, no necessary substance is connected with the world unless it is connected with it in the way in which a cause is connected with what is caused. It is, accordingly, not connected with the world in the way in which a part is connected with its complementary parts to form a whole (for the connection of constituent parts is one of reciprocal dependence, and such dependence does not belong to a necessary being). Therefore, the cause of the world is a being which exists outside the world, and thus it is not the soul of the world; its presence in the world is not local but virtual.[189]

This text (in conjunction with the others) suggests that the transition from "necessary" to "contingent" substance is a metaphysical transition that requires the participating substance to forfeit its status as an independent stand-alone substance. This is because a substance's "absolute necessity" appears to be purchased at the price of

[188] Ibid., 29:1007.

[189] *ID*, §19.

causal isolation. Alternately metaphysical involvement with other substances – coresidence in a single world-whole—appears to mean *causal interaction* (of a sort that is reciprocal). But why, exactly, does this involvement cost the prospective independent substance its *ontological* independence?

Here one might well ask whether there is some implicit assumption about what all is involved in a substance's being causally dependent on other substances. From the citation under current analysis, causal dependence appears to entail a kind of ontological dependence. But from this citation, however, it isn't clear how a substance loses its ontological independence by being *causally* dependent on other substances. Couldn't a substance have certain 'accidents' or (in more Kantian language) "determinations" by virtue of its standing in certain causal relations with other substances yet not owe its very *existence* to the fact that it stands in those causal relations? For instance, I owe the fact that I am word-processing to the left of student so-and-so by virtue of so-and-so's existence; or, that my hair currently has a reddish tint to it because I'm sitting next to a bright lava-lamp could not be an accident inhering in me (considered as a substance) were it not for a certain causal relation obtaining between me and the lamp; but I can (at any time) terminate my causal connection to the lamp and go my separate way through the world independently of this connection. So, we need further argument about why embeddedness in a reciprocal causal structure entails the negation of a substance's ontological independence.

To that end, notice (in *ID* §19) that when Kant denies "necessary" substances can stand in any connection with other substances, the sort of connection being denied to a necessary substance is explicated as "the way in which a part is connected with its complementary parts to form a whole" and, second, that this specifically *mereological* spin on 'connection' is further explicated in terms of "reciprocal dependence." Kant is conceptualizing the relational structure in which a multitude of individual substances are 'connected' (to form a whole) in terms of part/part relations and by doing so he implies that *composition relations* are a sort of *causal relation*. (Later, in the first critique's Third Analogy Kant also conceptualizes composition relations explicitly in terms of reciprocal interaction.) Suppose that composition relations are ultimately conceptualized on the model of a reciprocal interaction and, in addition, that the only eligible relata are substances defined as the possessors and exercisers of causal powers. What we think something *is* depends a lot on what we think it can *do*, what its causal powers are. Kant's concept of reciprocal interaction is such that, as relata in a reciprocal causal structure, substances are causally interdependent by virtue of the fact that their causal powers are *made* (engineered, designed) to coordinate and harmonize with the causal powers of other substances; consequently, these substances could not *be* the substances they are (i.e., possess the causal powers they do) independently of their embeddedness in that causal structure; which is to say that they could not be the substances they are independently of the whole of which they are parts.

5.2 The Forfeiture of Substance's Ontological Independence Occurs In Explanatory Context

Why should it follow from the fact that a plurality of (contingent) substances stand in relations of reciprocal interaction that they jointly constitute a single whole? This is an important issue that will be raised shortly. My present aim is to draw attention to the larger context in which the issue under discussion occurs. As suggested both the Vigilantius transcript and in the ID text Kant views the issue over how a substance's metaphysical embeddedness in a relational structure affects its ontological status as one that occurs in a larger *explanatory* context:

> Since accordingly their connection among themselves cannot be assumed directly, and without hindering their necessity, then one can do nothing else, in order to think this, than to derive their existence from a general communal primordial source, which is the general power for the general effecting of all things. But through this the latter become dependent on it, and contingent in themselves, they are connected with each other by this general cause, and therefore there arise a reciprocal connection and community with each other through the communal cause, since an action of a united being was necessary in order to produce them all, and in this manner the real connection <*nexus realis*> arises.[190]

Compare this text with what Kant says in *ID*:

> *The substances which constitute the world are beings which derive from another being*, though not from a number of different beings; *they all derive from one being*. For suppose that they are caused by a number of necessary beings; the effects, of which the causes are free from any reciprocal relation, would not be in interaction. Therefore, the UNITY *in the conjunction of substances in the universe is a corollary of the dependence of all substances on one being*. Hence, the form of the universe is testimony to the cause of its matter, and *only the unique cause of all things taken together is the cause of its entirety*, and there is no *architect* of the world who is not also, at the same time, its *Creator*.[191]

---

[190] *LM, Vigilantius*, underscoring added.

[191] *ID*, §20.

We can, I suggest, compare these two texts in a number of ways but we are interested in explanatory considerations. For example, we can ask for specifications of the explicanda and the explanans. It's clear that the type of explanation is intentional (i.e., teleological). Both texts suggest that in order to account for a given Datum (which is yet to be clearly specified) some "communal cause" or "one being" is required. The explicandum (or Datum) appears to be a plurality of substances standing in "reciprocal connection." In the Vigilantius transcript, Kant says that a plurality of (contingent) substances "are connected with each other by this general cause, and therefore there arise a reciprocal connection and community with each other through this communal cause."

In the *ID* text, Kant argues that "substances which constitute the world are beings which derive from another being, though not from a number of different beings; they all derive from one being." In support of Kant reasons:

> [f]or suppose that they are caused by a number of necessary beings; the effects, of which the causes are free from any reciprocal relation, would not be in interaction. Therefore, the UNITY *in the conjunction of substances in the universe is a corollary of the dependence of substances on one being.*[192]

Here the *explanandum* appears to be characterized as a plurality of substances in "interaction" and, in addition, used as the *datum* on which to assert the existence of a unique cause of that datum, that "only the unique cause of all things taken together is the cause of its entirety." On this view, Kant's use of 'entirety' (cited in the previous

[192] Ibid., §20, underscoring added.

sentence) seems to refer to a totality of substances under a description in which they are connected (as opposed to a plurality of independent stand-alone substances).

Elsewhere in ID, Kant is somewhat more explicit about what he is targeting for explanation:

> Accordingly, the following question, which can only be solved by the understanding, remains untouched, namely: *what is the principle upon which this relation of all substances itself rests, and which, when seen intuitively, is called space?* The hinge, then, upon which the question about the principle of the form of the intelligible world turns in this: to explain how it is possible *that a plurality of substances should be in mutual interaction with each other*, and in this way belong to the same whole, which is called a world. We are not here contemplating the world in respect of its matter, that is to say, in respect of the natures of the substances of which it consists, whether they are material or immaterial. We are contemplating the world in respect of its form, that is to say, in respect of how, in general, a connection between a plurality of substances comes to be, and how a totality between them is brought about.[193]

In *ID* Kant distinguishes three essential conceptual components of the concept of a world: matter, form and entirety. The "matter" of a world constitutes its *parts*, which are identified as substances; the "form" of a world is twofold, one specified as "sensible" (under which Kant subsumes both space and time) while the other is characterized as "intelligible" (which Kant appears to specify as reciprocal interaction); the entirety (or totality) condition is the condition that expresses the idea that a world is all-inclusive and not a part of something else larger than itself. This text actually requires some important interpretative nuancing that cannot be usefully given until later.[194] Suffice to say here that it is the world's "form" (as against its

[193] *ID*, §16.

[194] In the literature one interpretative concern is whether the sensible form and the intelligible form represent two ways of cognizing the same set of objects or entities; or whether each of

matter) that Kant targets as the datum to be explained and that, moreover, he appears to include the "intelligible form"—reciprocal interaction—as part of that datum:

> to explain how it is possible *that a plurality of substances should be in mutual interaction with each other*, and in that way belong to the same whole, which is called a world.[195]

The explanation given in *ID* for the datum of reciprocal interaction among substances is strikingly similar to the one already given in *New Eluc's* "Demonstration:"

> If, therefore, nothing further than this were admitted, no substance would stand in relation to any other substance, and there would be no interaction at all between substances. Since, therefore, in so far as each individual substance has an existence which is independent of other substances, no reciprocal connection occurs between them; and since it certainly does not fall to finite beings to be the causes of other substances, and since, nonetheless, all the things in the universe are found to be reciprocally connected with each other -- since all of this is the case, it has to be admitted that this relation depends on a communality of cause, namely on God, the universal principle of beings.[196]

In both the *ID* and the *New Eluc* texts Kant appears to be arguing something like a *reductio*: Since it is an empirical fact (one disclosed to us via perceptual intentional awareness) that there is only *one* world (in which everything is causally interactive)

---

the two types of form corresponds to *different sets* of entities. The first "epistemological" reading is advocated by Michelle Grier, the "ontological" reading by Paul Guyer. I agree with Grier. Under the epistemological reading, (which is my view) the intelligible form (specified as reciprocal interaction) can be conceptualized as the underwriting ground for the representation of space. The basic idea is that space (conceptualized as a subjective representational medium) is a sort of phenomenological counterpart to (or expression of) certain other structures (causal interaction) that can only be represented discursively (with the intellect, or understanding). (Later Kant contrasts these two ways of knowing as intuitive and the discursive.) Under my view, what is referred in ID to as "intelligible form" (reciprocal interaction) is in the first critique given the status of a pure (and also schematized) category of the understanding, specifically, the relational category of community and is, in addition, used in the Third Analogy, where (again) it is affiliated with space (i.e., cognitions of simultaneity).

[195] Ibid., §16.

[196] *New Eluc*, 1:410-11, underscoring added

we can infer to the existence of a *single* (communal, unique) cause of this datum. For if there were a *plurality* of causes—a plurality of Creators, say—then (huh-oh) there would be (contrary to fact) a bunch of separate and unconnected worlds, not just one world in which a totality of substances stand in relations of reciprocal interaction. And this brings us now to Kant's specification of the *explanans*. In the *Vigilantius* transcript there is not much description of what the "communal cause" is, further than specifying its explanatory role. However, when Kant says that "a united being was necessary in order to produce them all, and in this manner the real connection <*nexus realis*> arises," he suggests that the "communal cause" is capable of intentional action. In the *ID* text Kant refers to this "one being" (which I take to be coextensional if not synonymous with his "communal cause") under the dual description of "architect" and "creator;" which is, in effect, to refer to the "general primordial source" as both an *efficient* and a *final* cause.

In *New Eluc* Kant provides an additional specification of the unique cause of the world's unity as a "divine idea" or "schema of the divine understanding." The multitude of the world's substances form a single unified world-whole by virtue of the fact that "they are conceived as related in God's intelligence" in accordance with some idea.

> The schema of the divine understanding, the origin of existences, is an enduring act (it is called preservation); and in that act, if any substances are conceived by God as existing in isolation and without any relational determinations, no connection between them and no reciprocal relation would come into being. If, however, they are conceived as related in God's

> intelligence, their determinations would subsequently, in conformity with this idea, always relate to each other for as long as they continued to exist.[197]

Above it was suggested that, since Kant defines (or at any rate explicates) the ontological concept of a whole in terms of reciprocal interaction, we have indirect textual support for the specification of the "divine idea's" intensional content as *the idea of a whole*. In the present context this interpretation derives more plausibility for two reasons: first, because Kant's Model is one in which the datum is to be explained in terms that are intentional and, second, because it is a structural feature of an explanatory model of this type to acknowledge that the datum owes its existence (and observed unity) to the prior activity of a rational agent (in the present case, God), one who is capable of producing *effects* under the guidance of some idea or conception of the effect to be produced. Suppose that the acknowledged datum is an object of type F. According to the Model, in order to account for the existence of the datum by reference to an intentional agent's productive activity, you would naturally suppose that the concept that had guided the agent causally responsible for the datum was the concept *of F*. After all, it is the existence of an F, or Fs, that we intend to explain as the effect of the agent's concept-guided activity. So since the effect to be produced is a whole (indeed a world-whole) and since Kant defines (or, at any rate, explicates) the ontological concept of a whole in terms of reciprocal interaction, you would naturally suppose that the agent whose concept-guided production is causally

---

[197] Ibid., 1:414.

responsible for the datum (= a whole) to be one who had been guided by the concept *of a whole.*

5.3 Kant's Explanatory Model: Dual Directions of Inference

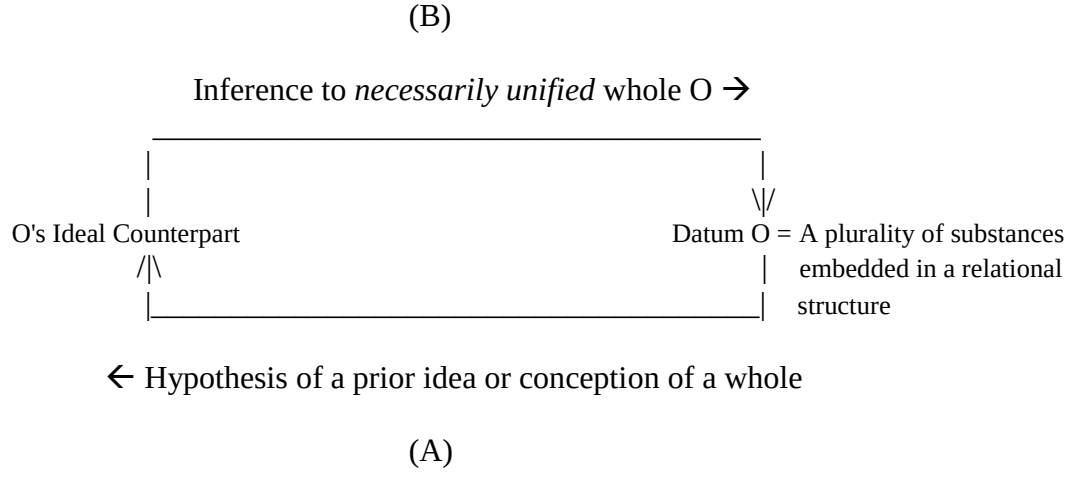
Within the teleological explanatory framework in which it is hypothesized, it is clear Kant views the "divine schema" as a content-bearing entity. However, the issue over how precisely to explicate its representational content within Kant's Model is not my present concern. It is an important issue that will be raised later. My present aim is to draw attention to two directions of inference within the explanatory framework under discussion. In the citations just discussed it's clear Kant infers *from* the acknowledged datum (described as interaction among substances) to the existence of a single (communal, unique) cause of that datum. We have specified this cause as an agent-guiding idea or conception. But there appears to be another direction of inference occurring within the same explanatory framework, one that proceeds *from* the explanans (the divine idea or conception) *to* the datum. Whereas in the texts previously analyzed the dual direction of inference is largely implicit (or at any rate overshadowed by Kant's emphasis on the inference to a unique cause), both directions of inference are given explicit acknowledgement in *ID*:

> Granted that the inference from a given world to the unique cause of all its parts is valid, then, if conversely, the argument proceeded in the same way from a given cause, which was common to all the parts, to the connection between them and, thus, to the form of the world (although I confess that this conclusion does not seem as clear to me), then the fundamental connection of substances would not be contingent but necessary, for all the substances are *sustained by a common principle*. The harmony arising from their very subsistence, a subsistence founded on their common cause, would accordingly

> arise in accordance with common rules. ... Thus, if as a result of all substances being sustained by one being, *the conjunction of all substances,* in virtue of which they form a unity, were *necessary*, then there would be a universal interaction of substances by means of physical influence, and the world would be a real whole.[198]

There are a number of important observations to be made in regard to this text. First, it's evident that there are *two* directions of inference, one from the acknowledged datum to the cause (or ground) posited for it and, alternately, a second inference proceeding from the posited cause back to the datum. (Notice also that Kant problematizes the second direction of inference in his parenthetical remark. We will return to this later.) I submit that these dual directions of inference are intended work in tandem within a single explanatory framework. (The dual directions of inference are represented in the diagram below.)

Diagram (Kant's Intentional Explanatory Model):



[198] *ID*, §22, ID underscoring added

That Kant thinks the two directions of inference work together in one explanatory framework is evident from the argument he gives in the text above:

Reconstruction of *ID* §22:

1) If the conjunction of substances were *necessary*, then "there would be a universal interaction of substances by means of physical influence and the world would be a real whole."

2) The conjunction of all substances *would be* necessary under the hypothesis that they were all "sustained by a common principle."

3) If the two directions of inference are both valid, then all the substances would be sustained by a common principle, in which case "the fundamental connection of substances would not be contingent but necessary ...". As Kant states:

> Granted that the inference from a given world to the unique cause of all its parts is valid, then, if conversely, the argument proceeded in the same way from a given cause, which was common to all the parts, to the connection between them and, thus, to the form of the world (although I confess that this conclusion does not seem as clear to me), then the fundamental connection of substances would not be contingent but necessary, for all the substances are *sustained by a common principle*.[199]

4) So, given the two directions of inference we can (or, at any rate, are supposed to be able to) adequately explain "how, in general, a connection between a plurality of substances comes to be, and how a totality between them is brought about" (§16, ID).

For expository clarity I will make a number of other observations concerning the text above and do so in reference to the explanatory Model as represented in the diagram. Note the dual inferences are assigned the letter (A) and (B). Note also that

[199] ID, §22.

the idea or conception of the datum (O) is referred to as its 'ideal counterpart' ('ideal' meaning 'mental'). The inference (A) proceeds from the datum O to its ground, which in the Model above is the idea or conception thought of as having guided an intentional agent's productive activity so as to produce that datum. In the Model, the datum O is (rather neutrally) specified as a relational structure whose relata are a plurality of substances; however, I have already presented considerable textual evidence showing that Kant himself describes the datum (explanandum) in terms of reciprocal interaction. So, it would appear that the inference to the datum's cause or ground is one that (in Kant's mind, anyway) proceeds *from* the acknowledgement of the datum—a plurality of substances embedded in a relational structure (explicated in terms of reciprocal interaction)—*to* the ground (understood as its ideal counterpart). If this were correct (and I will present more textual evidence for it shortly) then it would certainly implicate the concept of reciprocal interaction as an integral component of Kant's explanatory Model.

Furthermore, if it can be shown (or, at any rate, plausibly suggested) that the use of this Model is implicit in Kant's third critique (particularly in sections §§64-66 of the Analytic of Teleological Judgment, where in addressing an explanatory crisis Kant introduces the concept of a *natural end*), then the concept of reciprocal interaction would, in addition, be implicated as an interpretative construct useful in illuminating these crucial sections of the third critique. And since, as already observed, Kant's concept of reciprocal interaction has been put to diverse theoretical uses over the course of its philosophical career, the fact that this concept is used in

the third critique to serve explanatory concerns introduces the possibility that its implementation in that third major post-Copernican work may also be motivated by other, say, more well-known epistemological aims deriving from Kant's first critique. For the present, let this be admitted as plausible conjecture.

There is another vitally important observation to be made concerning the internal structure of the Model. Given that the Ideal Counterpart expresses some idea or conception of a whole, the difference between the dual directions of inference can be explicated as follows: whereas inference (A) proceeds from the parts and their interrelations to (a conception of) the whole, inference (B) proceeds from the (conception of a) whole to the parts. For the present, my focus is on inference (A). In the Model, inference (A) implies that the interrelations among a set of parts are ones *of a sort* to require concept-users to hypothesize some prior idea or conception of a whole as the condition under which those parts (and their interrelations) can be thought (cognized, made intelligible) at all. Let us call the dependency of the parts and their interrelations on some idea or conception of a whole 'part-on-whole dependency' (or whole priority). Note that when a set of parts (and their interrelations) are said to be part-on-whole dependent, those parts are thought of as *conceptually dependent* on some prior idea of a whole as the condition under which they can be identified and individuated as the parts they are.

Finally, notice that the necessary unity among the substances embedded in the relational structure (explicated in terms of reciprocal interaction) appears to be a modal status that attaches the substances' *unity* as a consequence of (B), the inference

from the Ideal Counterpart to Datum O. (It is also this inference that Kant says he's less confident about.) Notice that in Kant's argument (as reconstructed above) the conclusion that the world is a real whole is one that depends on whether the intersubstantial unity has *the required modal status*, namely, a necessary unity. The interpretative question here is whether Kant intends there to be a differential in how the unity (of the substances) is to be modally assessed across the two directions of inference. Is the unity supposed to undergo a modal upgrade? Kant has argued that only contingent substances are eligible to be members in a relational structure (one, at any rate, explicated in terms of reciprocal interaction). Are we supposed to think that because the members of the relational structure are themselves contingent entities that the unity among them is also contingent? If so, how does a plurality of substances *become* necessarily unified as a consequence of making the inference from the Ideal Counterpart to the relational structure? If no modal upgrade is intended, is this because the inference to O's ideal counterpart *assumes* that the members embedded in the relational structure are *already* necessarily unified? If so, the issue arises over whether Kant's Model is explanatorily circular. Given datum O is referred to under a description where a plurality of substances are already necessarily unified and given, in addition, that inference (B) depends on inference (A), and then Kant's Model would appear to beg the question.

5.3.1 Further Textual Support For Inference (A) As An Integral Part of Kant's Model

Evaluative issues of the kind just acknowledged are not my present concern. They will be raised and discussed later. The aim now is to show how the relational structure (explicated in terms of reciprocal interaction) is an integral part of Kant's explanatory Model. Textual evidence has just been cited in support of the Model's dual inference processes, (A) and (B). With regard to (A) the inference proceeds from the datum -- a plurality of substances embedded in a relational structure -- to the idea or conception of a whole. Kant appears to think (as we will see shortly) that the inference *to* the idea or conception of a whole *depends on* explicating the relational structure in terms of reciprocal interaction. If this were the case, then the construct of reciprocal interaction would have to be acknowledged as an indispensable component of Kant's Model.

In the preceding analyses we examined essentially the same argument, variously permuted, across different Kantian texts. In each of its different permutations, the argument was stated with one or more of its components emphasized over the others; sometimes a component was entirely omitted. In one formulation of the argument, the emphasis seems directed at asserting the contingency of substances, while in an alternate formulation emphasis is on characterizing their cause (as "a primordial communal source" or "communal cause"). In yet another of its permutations (in ID), the argument explicitly introduces a dual inference structure (not present in earlier formulations) and subsequently a new emphasis on a plurality of substances' necessary unity. In an extended text from the

Herder transcript (cited below) Kant presents an argument that is essentially the same as the one we have already analyzed from *New Eluc* and *ID*; however, in the Herder transcript Kant's model of interaction is more explicitly developed than in these other texts. Moreover, because the model of interaction is developed to a greater extent in a context where Kant is making an argument that is essentially the same as the one he makes in *New Eluc* and *ID*, increased development of that model can plausibly be taken as an indication of emphasis, one where the intention is to bring the *model's* contribution to the argument into focus.

In the Herder transcript Kant states (or, at any rate, is on record as saying):

> If a substance suffers, then it must contain in *itself* by its own power the ground of the inherence of the accident, because otherwise the accident would not inhere in it. But the ground of this must also be *in the efficient power of the substance*, because otherwise it would not act. Consequently the *powers of the substances are harmonious.* In relation to the powers of the others one contains the ground of the inherence of the accident. This body of doctrine is called established harmony <*harmonia stabilita*>, and since God willed it previously, preestablished <*praestabilita*>.
>
> *Synthetic preparation*. Each subject in which *an accident inheres must itself contain a ground of its inherence*. For if, e.g., God could produce a thought in a soul merely by himself: then God, but not a soul, would have the thought: because there would be no connection <*nexus*> between them. Thus for the inherence of an accident in A its own power is required, and a merely external, not even a divine power, does not suffice. Otherwise I could also produce thoughts in a mere wooden post, if it were possible by a mere external power.
>
> If substances effect one another reciprocally <*mutuo*>: then the suffering, the *inherence of the accident*, happens *not merely by its own but rather also by external power*: for otherwise it would not be a suffering. E.g., I hear music: that requires the external power of the music, and the distinct representation of the notes requires one's own power of hearing.
>
> An accident thus inheres by its own power, which contains the *sufficient inner ground* of it yet also by *external* power, thus by *an outer ground* of inherence without which it would not have inhered. Now *properly no substance can contain the ground of the accident of the other, if it does not at the same time contain the ground of the substantial power and of the*

> *existence of the other:* I cannot become the ground of a thought in another if I am not at the same time the ground of the power that produces the thoughts: in this manner *God is the ground. If two substances are in interaction <in commercio>, the two depend on a third, so their powers are harmonious with one another: they stand in connection and relation, on account of the third substance which is the ground of both, and has willed a connection <nexus>*. E.g., the existence of the action of another does not depend simply one action and one power. Thus all predicates must be produced by one's own power, but since an external power is also required externally: then a third must have willed this harmony (established harmony <*harmonia stabilita*>). This connection <*nexus*> is between created beings, because the two in interaction <in commercio> must depend on a third.[200]

A more detailed analysis of the metaphysical issues surrounding this extended Kantian text is offered in the next chapter. Here I comment only briefly. There are mainly three competing models of (what you might call) "the metaphysics of causality,"[201] that is, a view of what causation is (or isn't) and an implied account of the way the world (and/or our minds) must be set up in support of that account of causation. The three main models on the market at Kant's time were as follows:

Metaphysic of Causality	Causal Relation	Metaphysician
1) Occasionalism	Mediated (by God)	Malebranche
2) Pre-Established Harmony	Ideal	Leibniz
3) System of Physical Influence	Real	Kant

Kant rejects (1) and (2). As early as *New Eluc*, Kant's intention was to provide an alternative to these metaphysical accounts. But this alternative is not without certain similarities to its competitors, namely, the Leibnizian view. However, a comparison of these views is not my present aim. Suffice it to say that the conclusion of the

[200] *LM, Metaphysik Herder*, 28:52.

[201] I am acquainted with the term from Eric Watkin's book Kant and the Metaphysics of Causality. However, my account of its meaning is not derived from his book. In the portions I read, I didn't read any explicit explication of the term. So the definition is my own.

extended Herder text (cited above) is in support of "the system of physical influence" (Kant's phrase). In this Kantian vision of "connection," substances are actually causally efficacious (concerning other substances); they are capable of producing effects (accidents) *in* other substances. Under (3) the causal connection among a plurality of substances is therefore "real," as opposed to merely "ideal" (here meaning 'merely mental'). What Kant is doing in this citation is offering a comparatively more detailed account of (3), of how reciprocal interaction (transeunt causation or system of physical influence) among a plurality of substances works.

Kant develops his model of interaction within the context of a more general argument that may be reconstructed as follows:

1) If a plurality of substances stand in relations of reciprocal interaction, then the causal powers of each of the substances would have to be coordinated and harmonized with each other. (Notice the argument assumes the antecedent in (1), namely, that a plurality of substances *do*, in fact, stand in relations of reciprocal interaction.)

2) Since no (finite) substance is itself capable of arranging it so that its causal powers work harmoniously with the causal powers other substance nor able to cause other substances' causal powers to work harmoniously with it, some "third thing"—something "external"—to all the members of the plurality of substances must be posited as the ground of their reciprocal interaction. As Kant states:

> *If two substances are in interaction <in commercio>, the two depend on a third, so their powers are harmonious with one another: they stand in*

> *connection and relation, on account of the third substance which is the ground of both, and has willed a connection <nexus>.*[202]

Here it is clear that the inference Kant is making is one which proceeds from a datum (or at any rate an assumption) of a plurality of substances embedded in a relational structure to the proposition that there is some "third thing." Ample textual evidence has already been given for the specification of some "third thing" as a divine idea or conception of a whole. It is also clear that the inference proceeding from the relational structure to the existence of the idea or conception of a whole is one which involves reference to that relational structure *under the description of reciprocal interaction*. This Herder transcript therefore explicitly supports the suggested hypothesis, namely that the concept of reciprocal interaction functions as an integral component of Kant's Model, specifically as the basis on which to make inference (A).

The extended Herder text (cited above) is a very dense Kantian text, one that merits careful analysis. As remarked, a more detailed analysis of this text is offered in the next chapter. In the remainder of the present chapter, the aim is to elaborate on and clarify certain other aspects of the intentional structure of Kant's model.

5.4 The Intentional Framework of Kant's Explanatory Model

In *ID* God is dually subsumed under two important conceptualizations; first, as the creator; second, as the architect. Kant insists that both are required. God (as creator) plays the role of *efficient cause*; God (as architect, engineer, or designer)

[202] Ibid., 28:52.

plays the role of *final cause*. Even here, however, it sometimes seems that God's importance seems derivative; as an explanatory postulate God is necessary only because, first, there has to be some mind suitable in which to impute the "divine schema." And who else's but a supreme being's mind could big enough and smart enough to "entertain" such an idea? Second, there has to be some existent being capable of *willing*, or *intending* the idea or schema into material reality.

In acknowledging the need to posit God under the description of creator and engineer or designer, Kant is doing two things: First, he is viewing the *existence* of a plurality of substances standing in relations of reciprocal causal interaction as the *intended effect* (or end-product) of an act of intentional causation. Second Kant acknowledges that, in order to conceptualize something *as an end*, some reference to an intentional agent is required:

> **Ends** have a direct relation to **reason**, whether this is that of another or our own. But if we are to place them in the reason of another, then we must at least base this on our own as an analogue: because otherwise this cannot be represented at all.[203]

Having posited an ideal counterpart of a given natural organism, we face the need to posit a suitable substance "in which" this Ideal Counterpart can be thought to exist. To that end, we must posit a cognitive subject, an intelligent cause. If you want to give the *reason why* it is that a plurality of substances stand in relations of reciprocal interaction by reference to an idea or conception of a whole (for which they were

[203] Immanuel Kant, *Teleological Principles*, 8:182, also cited from endnotes in *CPJ*, p. 393, footnote, 20.

intended as parts), that idea must be conceptualized as operative in the motivational system of an intentional agent whose causal powers are capable of executing it.

Under this conceptualization, the divine idea or "schema" resembles an *action plan.* In that case, the divine idea has to be placed not merely in a intentional consciousness capable merely of representing reality -- the way the world actually is; rather, in order to perform its explanatory role in Kant's Model, the Ideal Counterpart must also be located in a cognitive being that can perform as rational *agent*, one capable of producing effects according to and under the guidance of a concept of the product to be produced or the action to be enacted.

> If one would define what an end is in accordance with its transcendental determinations (without presupposing anything empirical, such as the feeling of pleasure), then an end is the object of a concept insofar as the latter is regarded as the cause of the former (the real ground of its possibility); and the causality of the **concept** with regard to its **object** is purposiveness (*forma finalis*). Thus where not merely the cognition of an object but the object itself (its form and existence) as an effect is thought of as possible only through a concept of the latter, there one thinks of an end. The representation of the effect is here the determining ground of its cause, and precedes the latter.[204]

According to Kant, conceptualizing anything as an 'end' involves some reference (even if only on analogy) to rational agency, whereby existing things—products or actions—are explained as the effects of prior concept-guided activity.

> The faculty of desire, insofar as it is determinable only though concepts, i.e., to act in accordance with the representation of an end, would be the will. An object or state of mind or even an action, however, even if its possibility does not necessarily presuppose the representation of an end, is called purposive merely because its possibility can only be explained and conceived by us insofar as we assume as its ground a causality in accordance with ends, i.e., a

[204] *CPJ*, §10, 5:220.

> will that has arranged it so in accordance with the representation of a certain rule.[205]

So the Ideal Counterpart has to be conceptualized within the framework of a faculty of desire, meaning that we (ultimately) must posit an intentional agent in whose mind the ideal counterpart is an object of intentional awareness. But there's also, the motivational component: the cognitive subject must be motivated to actualize the idea. What this means is that the Ideal Counterpart must be modeled on the intentional object of an agent's practical reason (or "faculty of desire"). For only when embedded within the agent's motivational system is the Ideal Counterpart able to be conceptualized on the model of an *end*.

What is modally distinctive, according to Kant, about an agent's intentional awareness of an *end* is that the intentional object of such awareness is not regarded as that which already exists, as something correspondent with fact, but rather as what (in the agent's mind, anyway) is *supposed to exist*. Evidently, the ground of this additional modal feature is the agent's will or intention. Kant seems to think that it is constitutive of an agent's intention that he represents its intentional object both as one that does *not* currently exist but also as one that *ought to*.

> Now as an end in general is that the **concept** of which can be regarded as the ground of the possibility of the object itself, thus in order to represent an objective purposiveness in a thing the concept of **what sort of thing it is supposed to be** must come first; and the agreement of the manifold in the thing with this concept (which supplies the rule for the combination of the manifold in it) is the **qualitative perfection** of a thing. **Quantitative** perfection, as the completeness of any thing in its own kind, is entirely distinct from this, and is a mere concept of magnitude (totality), in which

---

[205] *CPJ*, §10.

> **what the thing is supposed to be** is thought of as already determined and it is only asked whether **everything** that is requisite for it exists.[206]

Under the guidance of an idea or conception of the thing to be produced, an agent's intentional production targets the *de re* content of that guiding conception as *that which ought to be*. What is produced is made normatively answerable to that prior conception and its "perfection" is evaluated by comparing the end-product with how well and to what extent it conforms to the conception that guided the agent's production of it. Indeed, such normative comparisons are distinctive of a judgment of a particular type, specifically, the "teleological judgment of reflection:"

> A teleological judgment compares the concept of a product of nature as it is with one of what it **ought to be**. Here the judging of its possibility is grounded in a concept (of the end) that precedes it *a priori*. There is no difficulty in representing the possibility of products of art in such a way. But to think of a product of nature that there is something that it **ought to be** and then to judge whether it really is so already presupposes a principle that could not be drawn from experience (which teaches only what things are).[207]

Kant is acknowledging that some reference to an intentional (or motivational) system is part of the causal story he wants to tell about how a plurality of substances could form one necessarily unified whole, as opposed to a mere aggregate of stand-alone, metaphysically isolate, single-membered worlds. A plurality of substances constitute a world-whole because they stand in relations of reciprocal interaction; and they can do so by virtue of the fact that they were brought into existence by God, considered

---

[206] *CPJ*, §15, 5:227-8.

[207] *CPJ*, First Introduction, X, 20:240.

as a rational intentional agent, whose creation of the world was guided by an idea of the whole to be produced.

Chapter Six

CONCEPTUALIZING A WORLD: HOW TO EXPLICATE THE CONCEPT OF AN ENVIRONMENT

> The connection of substances constitutes what is essential in the concept of the world. Reciprocal interaction is in the whole, and here a substance is acting <*agens*>; and so there must be a reciprocal interaction with every whole.
>
> —Immanuel Kant[208]

6.1 Introduction

Kant's model is intended for use as part of a teleological explanation of the existence of the world-whole. In order for a plurality of entities to constitute one world, they must be viewed as parts of a common whole, one that is necessarily unified. According to Kant a plurality of substances could constitute parts of one necessarily unified world-whole only if they had been created according to a prior idea or conception of a whole, one in which each of those individual substance-parts were engineered and actualized for the sake of realizing that conception. Within Kant's explanatory framework, a plurality of substances may therefore be viewed as constituting a world-whole so long as concept-users are able to view these entities as the *end-product* of a deity's (concept-guided) intentional production. But if a plurality of substances is to be viewed as the *effect* of a deity's concept-guided intentional production, there presumably must be something about these entities (and

[208] *LM, Metaphysik Herder,* 28:208-09.

their interrelations) that could give concept-users a reason to hypothesize a prior idea or conception of a whole as the condition of their possibility: the reason is the *fact* of their interaction.

Under the model of interaction entities (and their interrelations) are represented in such a way so as to induce concept-users to hypothesize a prior idea or conception of a whole. One major constraint imposed on the model of interaction is therefore to show how concept-users would be justified in making (what I have called) inference (A) in Kant's Model. If adequately conceptualized, the model of interaction should therefore provide an illuminating answer to the question, 'Under what conceptualization would a plurality of substances (and their interrelations) *require* concept-users to presuppose an idea or conception of a whole as a prior condition of their interaction?'[209]

By examining various Kantian texts more closely, we can get clearer about why Kant thinks reciprocal interaction demands concept-users to posit some idea or conception of a whole. Consequently, we can gain more insight into the precise role to be played by reciprocal interaction within Kant's Model. Doing so will further support the contention that the model of interaction is an integral part of a larger explanatory framework. What I propose to do therefore is to return to extended Herder transcript (excerpted below) and use it as an organizing hub around which to

---

[209] This issue gets motivated in Chapter 11. Reason is under the imperative to pursue the unconditioned in order to realize its highest-order cognitive end of representing a world-whole. Reason's pursuit of the unconditioned (via its mereologically-oriented regressive syntheses) takes the form of constructing a multi-grade system of interactive structure.

set into orbit various other but closely related Kantian texts. All of these texts, in one way or other, bear relevantly on the reconstruction of the model of interaction. In the first section the aim is to get some initial textual analysis under our belt, so that we are put in a position to see how various key components of the Herder transcript, when corroborated and supplemented with other of Kant's texts, can be framed under larger metaphysical concerns. By illuminating the motivation behind Kant's model of interaction, these concerns aid in the interpretation of it and, in turn, connect it more plausibly to the intentional explanatory framework of Kant's model.

6.2 Brief Overview of Kant's Account of Substantial "Suffering"

In the extended Herder transcript (cited below), a causal transaction (one, at any rate, that counts as reciprocal) appears to require that a substance have the capacity to "suffer" at the hands of another (perpetrating) substance. Moreover, in this text, Kant's focus seems to be on the "suffering" substance, i.e., on the substance *in which* an accident is caused to inhere, rather than on the substance causally responsible for the accident's inherence. But this should not be taken as incongruent with Kant's aim to articulate a model of *reciprocal* interaction. As will become clearer, Kant thinks that any causal transaction between two or more substances requires "suffering" on the part of all substances party to that transaction. Indeed whether one substance succeeds in causing an accident to inhere in another appears (in Kant's model) to be a *joint enterprise*, one which not only requires a causal

contribution from the acting substance but also from the substance on the *sufferer's end* of the causal interaction.

> If a substance suffers, then it must contain in *itself* by its own power the ground of the inherence of the accident, because otherwise the accident would not inhere in it. But the ground of this must also be *in the efficient power of the substance*, because otherwise it would not act. Consequently the *powers of the substances are harmonious.* In relation to the powers of the others one contains the ground of the inherence of the accident. This body of doctrine is called established harmony <*harmonia stabilita*>, and since God willed it previously, preestablished <*praestabilita*>.
>
> *Synthetic preparation.* Each subject in which *an accident inheres must itself contain a ground of its inherence*. For if, e.g., God could produce a thought in a soul merely by himself: then God, but not a soul, would have the thought: because there would be no connection <*nexus*> between them. Thus for the inherence of an accident in A its own power is required, and a merely external, not even a divine power, does not suffice. Otherwise I could also produce thoughts in a mere wooden post, if it were possible by a mere external power.
>
> If substances effect one another reciprocally <*mutuo*>: then the suffering, the *inherence of the accident*, happens *not merely by its own but rather also by external power*: for otherwise it would not be a suffering. E.g., I hear music: that requires the external power of the music, and the distinct representation of the notes requires one's own power of hearing.
>
> An accident thus inheres by its own power, which contains the *sufficient inner ground* of it yet also by *external* power, thus by *an outer ground* of inherence without which it would not have inhered. Now *properly no substance can contain the ground of the accident of the other, if it does not at the same time contain the ground of the substantial power and of the existence of the other:* I cannot become the ground of a thought in another if I am not at the same time the ground of the power that produces the thoughts: in this manner *God is the ground. If two substances are in interaction <in commercio>, the two depend on a third, so their powers are harmonious with one another: they stand in connection and relation, on account of the third substance which is the ground of both, and has willed a connection <nexus>*. E.g., the existence of the action of another does not depend simply one action and one power. Thus all predicates must be produced by one's own power, but since an external power is also required externally: then a third must have willed this harmony (established harmony <*harmonia stabilita*>). This connection <*nexus*> is between created beings, because the two in interaction <*in commercio*> must depend on a third.[210]

[210] *LM, Metaphysik Herder,* 28:52.

What exactly does a substance's "suffering" consist in? Kant states the condition of suffering (defined in terms of accident inherence) as follows:

> If a substance suffers, then it must contain in *itself* by its own power the ground of the inherence of the accident, because otherwise the accident would not inhere in it. But the ground of this must also be *in the efficient power of the substance*, because otherwise it would not act. Consequently the *powers of the substances are harmonious.* In relation to the powers of the others one contains the ground of the inherence of the accident.[211]

First, notice that Kant appears to conceptualize an 'effect' in the terms provided by the traditional Aristotelian substance-accident model. That is, the production of an effect *in* a substance is understood in terms of a substance's coming to have an accident or property *inhere* in it (which it presumably didn't have prior to the causal transaction). Kant makes this point more explicit elsewhere:

> Acting and effecting can be assigned only to substances. Action is the determination of the power of a substance as a cause of a certain accident <*accidentis*>. Causality <*causalitas*> is the property of a substance insofar as it is considered as a cause of an accident <*accidentis*>.[212]

Second, notice that a substance's suffering (understood as an accident's coming to inhere in it) depends, in addition, on the suffering-substance's containing "in itself" the ground of the accident's inherence. So the (or, at any rate, *a*) condition under which a substance may suffer is that an accident comes to inhere in it by the exercise of a causal power that is *internal* to the suffering-substance. Let us call this the internal agency condition on accident inherence, or *the inherence condition*.

---

[211] Ibid., 28:52.

[212] *LM, Metaphysik L,* 28:565.

However Kant's account of suffering is one he is developing with the larger aim of determining the conditions under which *inter*substantial causation is possible; consequently, the account of suffering is (in Kant's mind) to be embedded within the larger model of interaction. Kant makes this more explicit in the Metaphysik L transcript:

> Action <*actio*> is either inner or transeunt <*immanens ... transiens*>. If an inner action <*actio immanens; G: innere Handlung*> is performed, then one says: the substances activates. Transeunt action <*actio transiens*> is also called influence <*influxus*; *G: Einfluss*>. Suffering obviously corresponds to influence <*influxus*>, but not to inner action. Suffering is the inherence of an accident <*accidentis*> of a substance by a power that is outside it. Interaction is the relation of substances with reciprocal influence <*commercium est relatio substantiarum mutuo influxu*>.[213]

Kant's aim is therefore to indicate what needs to be *added* to his model of a suffering-substance in order to be able to conceptualize that substance as an *interactant* in a relational structure with other substances -- one in virtue of which a plurality of substances may count as one real whole.

In the Herder text (cited above) notice Kant says that "the ground of this must also be *in the efficient power of the substance*, because otherwise it would not act. Consequently, the *powers of the substances are harmonious*." In the preceding sentence when Kant says, "the ground of this must also be ... ", what should we understand as the referent of the demonstrative 'this'? I think a plausible answer to that question, given the context, is that the referent of 'this' is the suffering-substance, specifically its having and exercising the power to produce an accident in itself.

[213] Ibid., 28:565.

Under this interpretation, Kant is saying that the suffering-substance's power to produce an accident in itself is one that is grounded on "the efficient power" of

a different substance, one that is *external* to the suffering substance. Let us refer to this condition as *the external activation requirement*.

In this brief overview of Kant's account of suffering, two conceptual requirements have been introduced, namely the inherence condition and the external activation requirement. (Later, under a less superficial analysis of the Herder transcript in conjunction with other Kantian texts, other conditions will be introduced.) In the next section, I motivate the two requirements just introduced within a larger interpretative framework, one where Kant's concern is over how to conceptualize a world.

6.3 Framing Kant's Concerns: Models Of Metaphysical Involvement (Or Noninvolvement)

The concept of a world is (in Kant's mind, anyway) to be analyzed into three intensional components: parts (substances); form (both "sensible" and "intelligible") and entirety (absolute completeness). A fuller analysis of what Kant means by "form" isn't necessary in the present context. Here it suffices to say that Kant explicates "sensible form" as both space and time, and "intelligible form" as reciprocal interaction. Under Kant's conceptualization of a world, the world is something composed of a multitude of parts; these parts are united by the world's "form"—a relational structure; finally, the world is a whole that is not itself a part of

another (more inclusive) whole. Since the concept of a world is to be explicated as an absolute totality (a "world-whole") composed of a multitude of parts and since, in addition, these parts are substances, the trick is to conceptualize a *relational structure*, one in which a plurality of substances would count as constituent parts of *a single world* in virtue of their comembership in it.

How metaphysically intimate would prospective members of a plurality of substances have to be in order to jointly constitute a single "world-whole?" The basic structure of a substance can be conceptualized within a framework in which they are viewed to possess varying degrees of metaphysical involvement as a condition of comembership in a relational structure. These varying degrees of metaphysical involvement indicate what the relational structure is *like*, what demands it imposes on its members. Or the degree of metaphysical involvement can be so minimal (or null) that there isn't any relational structure at all. In the latter case, there would be no single world composed of a plurality of substance-parts; instead, there would be a plurality of independent stand-alone substances, each one a world unto itself.

We can, I suggest, conceptualize (at least) three different major positions along a continuum of involvement. (See diagram below.)

Model of Involvement	Antidote	Desiderata
1) Metaphysical Engulfment	the inherence condition	Parts
2) Metaphysical Isolation	the external activation requirement	Form
3) Kant's Alternative: Environment	the model of interaction	Wholehood

To see this, each position may be assigned a metaphysical slogan representative of its position. In each of the following, the concept of substance is explicated in terms of whether or not it possesses causal efficacy and, if so, to what extent:

1) Substances can produce effects neither internally nor externally; they can produce no effects *of any kind whatsoever*;

2) Substances can produce effects *only in themselves*; they can therefore neither produce effects in nor be affected by any substance distinct from themselves;

3) Substances can both produce effects in themselves and in other substances; they can both causally affect and be affected by other substances.

Kant rejects (1) and (2). He rejects (1) because it leads to (what I call) metaphysical engulfment. (I discuss engulfment in the next section.) Kant rejects (2) because it leads to metaphysical isolation. Finally, slogan (3) roughly expresses Kant's view.

A brief historical point may be useful here. Slogan (2) roughly expresses Leibniz's view of monads. As subjects capable both of intentional perceptual awareness and appetition, monads are nevertheless capable only of intramonadic, not intermonadic, causation (or, in the correlative scholastic idiom, they are capable of immanent, not transeunt, causation). It takes an entity external to a multitude of monads—namely, God—to harmonize their individually self-contained representational lives so that the world represented in their perceptual states appears as one world, one in which other monads are represented to coexist.[214] However,

[214] In the first critique Kant expresses a similar view of Leibniz: "Hence Leibniz, who ascribed a community to the substances of the world only as conceived by the understanding alone, needed a divinity for mediation; for from their existence alone this community rightly seemed

there is no real causal structure uniting these independent stand-alone entities.[215] Intermonadic unity is totally "ideal" (here meaning mental); it is a unity that characterizes *only* the individual monad's *representation* of the entities that appear in its perceptual states, not the entities themselves. That the entities presented in a monad's intentional perceptual states so much as *appear* to be unified (in one environment) is God's doing. When considered independently of God's mind, intermonadic unity is, however, a *sham*, the mere appearance of a real objective unity.[216]

> For Leibniz, the world is constituted of active substances and their states. Relations -- and anything else imaginary -- are neither real nor intelligible.

---

incomprehensible." [B 293] See Kant's description of and attack on Leibniz's conception of monads in the "Amphiboly" (*CPuR*, B330/A274-B332/276).

[215] Although there is zero causal interaction among the monads, Leibniz does have a theory about how material bodies are possible, one that explains the cohesiveness of natural organisms by reference to a "dominant monad." But, again, so far as I understand this theory, there is no actual intermonadic causation involved. In the present context it would be contrary to my aim to haggle over how to interpret Leibniz's monadology. Nevertheless I think slogan (2) is certainly Leibnizian in spirit, if not a precisely accurate statement of his own metaphysical position.

[216] One related issue that arises here concerns whether cognitive reference would be possible for the Leibnizian monad. It seems that the unity (or interconnection) that entities presented in our perceptual states appear to have would be referable to a domain of existence, one that is presented *as external* to the representing monad. But in view of the fact that perceptual content is recognized (by the representing monad) to be part of its internal simulation of an external reality, a simulation that he (the monad) knows (or, at any rate, believes) is being divinely coordinated with the mere simulations of vast numbers of other monads, it is difficult to see how reference relations could have any real epistemic role to play. If the epistemic job normally assigned to reference relations is to provide linkage between intentional contents on the one hand and external referents on the other, then (under this scenario) reference relations are out of one. Since if there is no extrarepresentational reality (not, at any rate, one that corresponds to the world as it is presented in perception), there isn't any set of mind-independent entities *to be* linked to internal perceptual states via these reference relations. Suppose, however, it is insisted that reference relations still play a cognitive role on this view. Then the linkages they are assigned to forge would appear to be merely *intra*personal, ones linking one intentional content to another. In that case, reference relations would therefore be unable to link an internal state (of the monad's representational system) to a referent that existed externally to that system. The problem here, however, is the implication of a rather self-defeating picture of what a representational system is supposed to do (or be). On this view, a representational system appears to be something that functions to represent its own internal workings and states rather than the entities and states of a world external to that system.

> Aggregates also lack reality and intelligibility: an aggregate has no reality over and beyond the reality of the substances which constitute it.[217]

The three positions, or models, above can be seen to differ in the degree to which they conceptually *negate* the content of Kant's concept of a world. Under (1), there would be *no plurality* of substances. (I explain why in the next section.) Therefore, a world-whole wouldn't be possible either insofar as one requires a plurality of parts.

Under (2) a plurality of substances would be possible; however, since these substance are causally isolated, there would be no "form" uniting them, that is, *no relational structure* in virtue of which (or, at any rate, in *terms* of which) substances could be conceptualized as parts. Consequently, no world-whole is possible under this model, either. Under (3), however, there would be both a plurality of substances and a relational structure in which they could be conceptualized as parts of one whole. Notice, further, that models (1) and (2) have been affiliated with one of the two requirements derived from the previous overview of Kant's account of suffering. Each condition, which has been extracted from Kant's text, is motivated to rule out as conceptually impossible its corresponding model of involvement. Think of models (1) and (2) as a threat, variously permuted, to Kant's concept of a world, one he averts by using the corresponding antidote.

As remarked, Kant's Model is used to explain the existence and generation of a world-whole. The aim is therefore to show how the model of interaction may be seen to derive its *conceptual content* from within a larger interpretative framework,

---

[217] Christia Mercer, *Leibniz's Metaphysics* (Cambridge University Press, 2001), 446.

one where the overriding concern is to show how a plurality of entities may be conceptualized as one world. In the sections that follow the aim is to interpret the extended Herder transcript (cited above) in light of the framework just provided.

6.4 Internal Agency As The Antidote To Metaphysical Engulfment

One major concern of Kant's is to conceptualize individual substances as causally efficacious. Whatever else a substance is, it should be an entity capable of originating effects. Recall that effects are (in Kant's mind, anyway) modeled on accident inherence and that the condition on inherence is that it can happens only if a substance has the internal causal power to produce effects in itself. But it is within the larger context of his model of interaction that Kant imposes the inherence condition. Hence Kant's concern seems to be over how to conceptualize two substances, x and y, as metaphysically distinct zones of ontological real estate and is, in addition, trying to short-circuit the implication that the substance *in which* the effect is produced is a (sort of) metaphysical extension of the producer-substance. If x's domain of intrasubstantial reality *engulfs* y's, so that y's existence is a metaphysical extension of x's, then any effect x produces *in y* is one produced in a domain of existence that falls into x's intrasubstantial domain. In that case, the causal 'transaction' (really, a misnomer here) would be a case of *intra*substantial (or immanent) causation, not *inter*substantial (or transeunt) causation. The "transaction" would therefore not count as a genuine case of causal interaction.

It is this concern over metaphysical engulfment that Kant is expressing in the text cited from the Herder transcript:

> Each subject in which *an accident inheres must itself contain a ground of its inherence*. For if, e.g., God could produce a thought in a soul merely by himself: then God, but not a soul, would have the thought: because there would be no connection <*nexus*> between them. Thus for the inherence of an accident in A its own power is required, and a merely external, not even a divine power, does not suffice. Otherwise I could also produce thoughts in a mere wooden post, if it were possible by a mere external power.[218]

This is a highly compressed Kantian text. But it merits careful analysis. Kant is concerned with the conditions under which interaction is possible. Kant seems to be arguing something like the following:

Show: That "[e]ach subject in which *an accident inheres must itself contain a ground of its inherence."*

1) If God could produce thoughts in a soul *by himself*, where 'by himself' is explicated as his being able to do so without any causal contribution made by the soul in which the thoughts were produced, then God (not the soul-entity) would be the subject of those thoughts.

2) But (uh-oh) if God (not the soul-entity) were the subject of the thoughts, then there would be no interaction because there wouldn't be a *plurality* of interactants. (Assuming there is interaction.)

3) So, we must deny the consequent in (1).

[218] *LM, Metaphysik Herder,* 28:52.

4) Therefore [by MTP] even God could not produce thoughts in a soul by himself.

As Kant says: "Thus for the inherence of an accident in A its own power is required, and a merely external, not even a divine power, does not suffice."

Under this reconstruction, Kant's argument works by viewing (1) as a *threat* to (the datum of) interaction.

How exactly is God's being able to produce thoughts in a soul by himself a threat to the possibility of reciprocal interaction? The production of thoughts is an effect of having exercised the capability to think. So, if God produced thoughts in a soul by himself, where 'by himself' is understood to mean that the soul in which the thoughts were produced played absolutely no causal role in bringing those thoughts about, then the soul cannot be attributed with having exercised the causal powers that are necessary to bring about the production of those thoughts. Because the soul is ruled out (as far as these thoughts are concerned) as the exerciser of the relevant causal powers (the capability to think), it must be God who exercised the relevant causal capacities. The point here is not that the thoughts produced in the soul would count as God's because, say, the thoughts produced therein have exactly the same semantic (or propositional) content as the thoughts God aimed to produce; no, Kant isn't arguing for an intensional comparison (or sameness relation) between two content-bearing entities existing in different minds. Rather the point is that the entity in which the thoughts are produced would not count as a conscious entity metaphysically distinct from God. In such a case (were it possible), there would be

no causal interaction because the soul-entity's thoughts would be a mere extension of God's consciousness.

Notice that the soul is being compared to a "wooden post." Unlike souls, wooden posts are not agents. They are not capable of activity, cognitive or otherwise. So when Kant compares the case in which God produces thoughts in a soul to the case of producing thoughts in a wooden post, he is implying that the reason the thoughts produced in the soul do not count as a case of divine thought control (and consequently not a case of *inter*substantial causation) is that the 'soul' in which the thoughts would be produced is not being acknowledged as an entity doing any of the thinking.[219] Because this soul is hypothesized as making zero causal contribution to the production of thoughts, the case we're imagining isn't a case in which God is producing thoughts in a separate stand-alone substance where there is a cognitive subject thinking thoughts that it didn't intend to think. Rather, it is actually a case where we are attempting (unsuccessfully, says Kant) to relocate God's thinking activity in a substance that cannot think. Since in the present case the soul is (like a wooden post) not acknowledged as the *agent* of any thinking activity, the distinction between which thought-effects are *its own* (i.e., one's to be attributed to its causal

[219] And an implicit premise here seems to be, first, that thinking entails a subject of thought and, second, that thoughts which are identified as "mine" are ones only I can think. But this second claim has to be finessed properly. Propositional (or conceptual) contents are not mine to possess; other minds besides mine can think them. So what has to be claimed as mine exclusively is something that only I can do, presumably something that is constitutive of the first-personal structure of intentional awareness. Frege distinguishes between Sinne and "ideas," the former belong to an objective, mind-independent "third realm," the latter to the private domain of individual minds. But Frege's distinction doesn't contribute to a model of the first-personal structure of intentional consciousness; it presupposes one. Kant, however, at least attempts to provide such a model, one that conceptualizes intentional awareness as the effect of agential processes, some of which are to a certain extent under the agent's

efficacy) and which aren't (i.e., ones to be attributed to a cause external to it) collapses.

I think Kant's reasoning is this: in order for the production of a set of thoughts in a soul to count as ones God produced *by himself alone* (where that entails absolutely no causal contribution made on behalf of the soul in which the thoughts are to be produced), the soul must (temporarily) be conceptualized as a (sort of) empty receptacle. Empty *of what*, exactly? In the present case, the entity being imagined here is one of a sort where, having conceptually negated the component of any individual cognitive agency, all that is left is a sort of psychological shell, a metaphysical storage structure. So with regard to the thoughts we want to imagine as having been produced in a soul by God alone, this 'soul' (really, a misnomer here) is conceptually equivalent to a totally thought-less brain-dead encephalic soul. For there is no entity *in it* (distinguishable from God) that can take causal credit for any thinking and therefore as having engaged in any thinking activity. Hence any thoughts produced in it would have to be God's.[220] So, it appears that we are not imagining the soul-entity as a sort of separate (but psychologically influenceable) cognitive subject whose individually distinct thought processes are ones God has under his control. Such a case of divine thought control would be a case of interaction. But Kant is arguing that the present case isn't a case of interaction. On

---

voluntary control (attention, memory, etc.) whereas some are the effect of subpersonal processes governed by internal conceptual norms (the categories).

[220] In "Thoughts" Frege makes a similar point. He says that what can be psychologically owned by the subject isn't the thought (i.e., the propositional content) but the thinking of it: cit forthcoming

the contrary, it is a threat to interaction. What we are imagining instead is a case where *God's thinking activity* is being illegitimately relocated to and down-loaded in an empty vessel -- an encephalic 'soul' -- one where there is no cognitive agent that is metaphysically separate from God.

Kant seems to be arguing that in order for the case under analysis to be a case of *interaction*, the soul would have to be capable of the activity of thinking and this capability, or causal power, would have to be essential to (or, at any rate, part of) what sort of entity it is, so that the thoughts produced in it would be thoughts *it* is thinking by the exercise of *its own* cognitive agency.[221] The implicit premise seems to be this: that in order for the thoughts God produced to count as effects produced in a *different* substance, the entity in which those thoughts were produced would have to be conceptualized on the model of an *agent* -- that is, as a possessor and exerciser of causal powers.

It would not be the first time Kant appealed to the concept of an agent as a principle of individuation. In *Physical Monadology* (PM), for instance, Kant introduces the idea of a "sphere of activity" and uses this construct in his precritical model of material unity. In that work, a body's *individuality* is interpreted (in Cartesian geometrical terms) as a bounded region of (matter-filled) space. A bounded region of space is conceptualized as a sphere of activity and not

[221] In that case, adjudicating between those cases of thought production which were cases of divine thought control from cases which aren't might be decided by noting mismatches along various dimensions, say, between actual thought-content on the one hand and the cognitive agent's intention to think p at t on the other; and, additionally, by noting matches between actual thought content and the content intended by a deity.

metaphysically identical to the agent whose activity it is; rather, the agent is an extensionless pointlike entity. In PM spatial extension is the *phenomenon* to be explained by reference to this extensionless pointlike entity; which is to say (in more Kantian terms) that the ground of a material body's individuality is an underlying agent and its extension-underwriting activity. The motivating idea behind the view is that whereas the extended matter enclosed in a sphere of activity is divisible (to infinity), the extensionless pointlike agent of that activity is invulnerable to such division. The principle of individuation (evidently not equivalent to an body's individuality[222]) is therefore understood in agential terms.[223]

It is the activity, or the exercise of agency, by the agent-entity that appears to determine whether a set of effects (accidents) belong to *its* domain of intrasubstantial reality. This idea is made more explicit in the Mrongovius transcript:

> Action can be derived from power, and other things from both; corresponding to it is suffering <*passio*; *G*; *Leiden*>. The possibility of acting is faculty <*facultas*>, the possibility of suffering is receptivity <*receptivitas*>. A substance, insofar is it contains the ground of that which belongs to the being of *one thing*, acts <*agirt; G: handelt*>; insofar as the ground of that which belongs to its own being is contained in another substance, it suffers

[222] For this conceptual nuance I am indebted to J.J. E. Gracia (1988). Gracia distinguishes between an account of what individuality *consists in* from an *explanation* of how an entity comes to be an individual. When we ask, 'What is it for an entity to be an individual?' we are asking for a model (or interpretation) of what individuality *is*. When we ask, 'Given x is an individual (under some model of what individuality consists in), *in virtue of what* does x possess individuality?' we are asking for *a principle of individuation*. In the present context, the substitution instance of x is a material body and the interpretation of x's individuality is a bounded region of space. Matter does not (according to Kant) have the resources to individuate itself; therefore, that in virtue of which a material body is a singular individual is due to something else, the activity of a pointlike agent, which is not itself spatially extended. (The view resembles a view held by Leibniz, but I cannot elaborate on this point here.)

[223] Later, in a post-Copernican context, rather than conceptualize these individuating agents as extensionless pointlike entities, Kant will distinguish between two domains, phenomenal (spatiotemporal) and noumenal, and relocate rational agents to the latter domain, which is not subject to space-time.

> passively. Every substance acts, because the subject subsists. The predicates inhere in each substance, the accidents (which we call merely that) cannot exist other than in the substance, thus it contains the ground of something which belongs to existence, thus it acts.[224]

In order to cognitively refer a set of effects to the domain of a separate substance, those effects need to be ones the affected substance can take partial credit for producing. Since, it is only when conceptualized as the effect of something *it does*, that the affected substance can claim that effect as one belonging to *its* intrasubstantial domain. Thus it is only if a set of accidents can be explanatorily linked to the exercise of x's causal agency that those accidents can be referred to x's (as opposed to y's or z's) domain of intrasubstantial reality. Intuitively, this is because that which *exercises* x's causal agency cannot be any other entity than the agent-entity, x. (Again, this is the internal agency condition on inherence, or the inherence condition, for short.)[225]

On Kant's account, the issue over whether an accident is one a substance can claim as *its own* depends on whether that accident is an effect that the substance can bring about through the exercise of its own causal powers. Concept-users would therefore appear to have a ground for *differential predication*, for referring some properties to one substance but not to another. Consequently, if a plurality of substances are posited, concept-users are then able to intelligibly raise the issue over

---

[224] *LM, Metaphysik Mrongovius*, 29:773.

[225] It is interesting to note a connection with Locke's political account of personal property, namely, that by "mixing my labor" with resources in the Common Realm (say, apples on a tree), a bushel of apples undergo a political transition from being as a publically usable resource to becoming

whether an effect (accident) belongs to *this* or *that* substance and whether those same effects originated internally or externally to a given substance. On this view, then, Kant's interest in modeling the inherence relation on the relation between an agent and its actions or activity seems motivated by the aim of determining a conceptual basis for thinking of substances as *singular individuals*. This aim is certainly one we can motivate within the interpretative framework suggested in the preceding section. Kant's interest in determining a principle of individuation reflects a larger concern over how to conceptualize the basic components of a world-whole. It appears that the basic parts of a world are (in Kant's mind, anyway) substances conceptualized on the model of agents.

6.4.1 Self-Activity And Substancehood

In his lectures on metaphysics Kant says (or, at any rate, is on record as saying) that in order for something to be a substance it must be capable of self-activity:

> We can never be merely passive, but rather every passion is at the same time action. The possibility of acting is [a] faculty <*facultas*>, and of suffering receptivity <*receptivitas*>. The latter always presupposes the former. Every substance is self-active, otherwise it could not be a substance; it can be suffering in one relation <*respectu*>, but can also be active in the same. A merely suffering substance is a contradiction <*contradictio*>; otherwise it could not have any accidents.[226]

---

my personal property. Similarly, a property (i.e., accident) becomes the property of a given substance (i.e., its possession) iff it is the effect of *that* substance's internal activity.

[226] Ibid., 29:823.

In the next chapter I offer a more detailed analysis of Kant's use of the active/passive distinction. For the present notice that Kant says, "a merely suffering substance is a contradiction" and then says, "otherwise it could not have any accidents." What's the argument here? First, Kant says in various places that we cannot know substances directly; rather we hypothesize their existence by reference to their accidents. This is, however, an epistemic argument. Kant seems to be making a conceptual point above. What does Kant mean by a "merely suffering substance'? And how does hypothesizing that a substance is a merely suffering substance lead to a contradiction? Should Kant's claim that "otherwise it could not have any accidents" be read as a consequence of the reductio he's arguing or is it to be read instead as a premise of that reductio?

Suppose that by a "merely suffering substance" Kant meant one that had no active powers, one where the active relation a substance's has to a set of effects is conceptually negated. Since Kant appears (in the text above) to be explicating the active dimension of a substance's relation to a set of effects in terms of its self-activity, it follows that to conceptually negate this active dimension would be equivalent to conceptually negating a substance's self-activity. But Kant has just asserted that self-activity is a condition of substancehood. Hence it would appear that a contradiction results directly. So it would appear that Kant's assertion that "otherwise it could not have any accidents" isn't necessary to generate the reductio after all. Instead, it would appear to be a consequence of the reductio, one that can

evidently succeed independently of it. So why include this additional assertion, when it would seem that generating a contradiction is sufficient?

There might be a way of incorporating the "otherwise it could have no accidents" remark more centrally into the reductio, however. We could read it as the logical consequence of negating (what I have called) the inherence condition. Then we could infer from Kant's remark that the negation of a substance's self-activity entails the negation of this condition.

We could further conclude that the inherence condition constitutes the *terms* in which Kant defines (or, at any rate, explicates) the active dimension of a substance's relation to a set of effects. If the active dimension of a substance's relation to a set of effects is conceptually negated, then (under Kant's account of suffering) we are conceptually negating the conditions under which any effects can be produced in (and owned by) that substance; in which case, in view of the fact that Kant models effects on accident inherence and says, in addition, that an accident may inhere in a given substance only if it is the effect of its internal activity, it follows that the substance whose active relation to a set of effects is conceptually negated is also a substance that would not (and, more fatally, could not) have any accidents. But since a substance's existence is hypothesized on the basis of real (existing) accidents, a substance that could have no accidents would be one we have no reason to hypothesize exists.

This sheds a somewhat different light on what (in Kant's mind, anyway) the contradiction is supposed to be. It puts a somewhat pragmatic twist on it by

suggesting that Kant's point isn't merely to generate a logical contradiction but rather to display a conflict in cognitive aims. Concepts are instruments used for cognitive purposes. Conceptually, substances are supposed to be that in which accidents (properties or features) inhere. From a more formal point of view, they are supposed to be the metaphysical counterpart to a logical construct, namely, the "logical subject of predication." Under a conceptualization where accident inherence depends on the self-activity of the substance, one capable of producing effects (accidents) in itself, it appears to be this self-activity that allows substances to perform their conceptual (and thus cognitive) role. To conceptually negate the mechanism (of self-activity) that makes accident inherence (thus differential predication) possible would therefore be to strip a substance of what makes it able to perform its cognitive role.

6.5 External Activation Presupposes Internal Active Processes

In a parallel discussion of the Mrongovius transcript Kant is more explicit about the external causal connection to a substance's suffering:

> The inner actions <*actiones immanentes*> [are those] which a substance produces in itself, [the] transeunt <*transientes*> [are those which] act upon another substance or [have] influence <*influxes*>. The substance being acted upon <*substantia patiens*> is acting in itself <*eo ipso agens*>, for the accident would not inhere if the substance had no power through which it inhered in it, hence it also acts; influence <*influxus*> is therefore an unfitting expression, it implies that the accident migrated out of a substance. What then is genuine passivity <*passio*>? The acting substance <*substantia agens*> determines the power of the substance being acted upon <*substantiae patientis*> in order to produce this accident, therefore all passivity <*passio*> is nothing more than the determination of the power of the suffering substance by an external power.[227]

[227] Ibid., 29:823.

Here Kant introduces a pair of substances -- the "acting substance" and "the substance being acted upon." As already observed, Kant conceptualizes a substance's "passivity" or "suffering" as an internal activity performed by the suffering-substance; however, in this text Kant says that a suffering-substance's power to produce an accident in itself is "determined by" the causal power of a substance that is external to it. Let x and y play the opposing roles of acting substance and substance acted upon, respectively. Then, Kant seems to be asserting a causal structure of the following sort:

> (ActR): y suffers only if there exists an x such that x activates y's causal power.

Under this requirement, y produces accidents in itself but only under the condition that there exists some other substance, x, one that activates y's internal accident-producing activity. We might aptly name this the *external activation requirement* (ActR).[228] Here, we could also suggest a further nuance, namely, that x should be endowed with causal powers of the relevant sort, ones in virtue of which x is *able* to have some effect on y's internal operations. This suggests that, for interaction to be possible, x and y's causal powers must be to a certain extent complementary. (This issue will be raised shortly.)

There are a number of important points to be made about the external

---

[228] Various texts in Kant's first critique imply (or, at any rate, strongly suggest) he continued to conceptualize substances under this requirement. In the famous opening sentences of the Transcendental Aesthetic, for instance, Kant suggests a picture of human representational systems whereby their internal cognitive operations are "awakened" into action by an external stimulus.

activation requirement. Notice, first, that *what's* being activated or enabled is the substances' *internal operations*, ones whereby it is able to produce accidents in itself. The external activation requirement is therefore a necessary (but not individually sufficient) for producing an accident in the suffering-substance; rather, the additional condition is something internal to the suffering-substance, y, namely y's causal powers (to produce accidents in itself). Indeed, Kant seems to think that in order to conceptualize these operations as internal to y, y has to be the sort of entity *in which* these operations (as effects) can be staged or played out. In other words, in order for these operations to be internal to y, concept-users must be able to *cognitively refer* these operations (considered as effects) to y (as opposed to a different substance z). But in order for *differential* cognitive reference[229] to be possible, y must show up ontologically (in the minds of concept-users) as a *causal agent in its own right*, one capable of taking credit for producing these (internal) effects.

In a parallel discussion Kant acknowledges the necessity of conceptualizing the suffering-substance as an individual causal agent:

> Action can be derived from power, and other things from both; corresponding to it is suffering <*passio*; *G*; *Leiden*>. The possibility of acting is faculty <*facultas*>, the possibility of suffering is receptivity <*receptivitas*>. A substance, insofar is it contains the ground of that which belongs to the being of *one thing*, acts <*agirt; G: handelt*>; insofar as the ground of that which belongs to its own being is contained in another substance, it suffers passively. Every substance acts, because the subject subsists. The predicates inhere in each substance, the accidents (which we call merely that) cannot

[229] Due to the fact that Kant models effects on accidents, what I am referring to as differential cognitive reference is really differential predication.

> exist other than in the substance, thus it contains the ground of something which belongs to existence, thus it acts.[230]

Reading this text in light of the others just analyzed, Kant seems to be saying this: Since effects are modeled on accidents, and accidents can be predicated only of individual substances, conceptualizing certain (externally activated) operations as being internal to y is equivalent to *predicating the performance of certain activities to y.* But for this to be possible, concept-users must first conceptualize y as the sort of entity capable of producing these internal performances, namely, as a possessor and exerciser of causal agency;[231] furthermore, the conceptualization of these operations as *internal* to y (as opposed to some other substance z) requires that y be acknowledged as the *unique* causal agent of those same operations. A substance numerically distinct from y could therefore not be referred to under the descriptor 'the performer of operations internal to y', because only y can perform operations that are internal to y.[232] The number of permissible substitution instances of y in this case is

---

[230] Ibid., 29:773.

[231] Kant does not reduce substances to causal powers, however: "Concerning power, it is to be noted: the author defines it as that which contains the ground of the inherence of the accidents; since accidents inhere in each substance, he concludes that every substance is a power. That is contrary to all rules of usage: I do not say that substance is a power but rather that it has power, power is the relation <*respectus*> of the substance to the accidents, insofar as it contains the ground of their actuality, e.g.: I cannot say that the faculty of thinking within us is the substance itself -- the faculty belongs to it -- nor even [that] an accident of the thoughts is the accident. We thus have something that is not substance, yet also not accident." [29:771, Metaphysik Mrongovius, LM]

[232] Stating it this way makes the proposition the sentence expresses appear tautological. What is, after all, meant by the locution 'internal to y'? Wouldn't the content of 'internal to y' be conceptually explicated as those operations that only y could perform? It is difficult to suppress the impression that the proposition being asserted here is also the same, or very similar, to the proposition that Kant later asserts in his first critique deductions, specifically the B Deduction, section 16. There Kant argues for the conditions under which a content can be claimed as one's own, one of which is the cognitive agent's use of the 'I think'. Only I could apply the 'I think' to my contents; or, a content

therefore exactly one, namely, the unique causal agent that is y.

An everyday illustration of this requirement should amplify its intuitiveness. Think of home computer. It's capable of performing various functions and operations (on command), but it can do so only if activated electronically; in order to perform its internal operations, the unit has to be plugged in. However, the computer doesn't derive the capacity to perform these operations from the electrical wall outlet (or, more precisely, the city generator). (If that were the case, then you could word-process and balance Excel sheets on your toaster-oven.) Notice that the effects produced by plugging the computer in, by activating it, are ones staged and played out *in the computer* (screen lights up, then becomes responsive to keyboard commands, etc.) The electric current isn't directly responsible for these effects. Electricity is dumb; it cannot produce in a computer effects of a sort only a computer could produce. Causal credit for these internal effects is therefore due to the computer's internal capability.

6.5.1 Interaction As Reciprocal Influence

So far I explicated Kant's account of suffering in terms of external activation of a substance's internal agency: When externally activated a substance is induced into performing certain internal operations. In view of the fact that the account of

---

belongs to my mind iff the 'I think' can be applied to that content. Who but me could ever be in a position to do so? There can, of course, be ghost-writers for novels, but there can't be a ghost-agent who applies the 'I think' to contents of my mind on my behalf. I cannot sub-contract performances (applications) of the 'I think' to a foreign agent and expect that the content it gets affixed to will also count as an intentional object for me.

suffering is to be embedded in the larger model of interaction, the issue can be raised over how to conceptualize the reciprocal causality implied by that model. Should we, in other words, conceptualize interaction as merely *bidirectional* suffering? Kant says, "[s]uffering obviously corresponds to influence" and then defines (or, at any rate, explicates) interaction as "reciprocal influence:"

> Action <*actio*> is either inner or transeunt <*immanens ... transiens*>. If an inner action <*actio immanens; G: innere Handlung*> is performed, then one says: the substances activates. Transeunt action <*actio transiens*> is also called influence <*influxus*; *G: Einfluss*>. Suffering obviously corresponds to influence <*influxus*>, but not to inner action. Suffering is the inherence of an accident <*accidentis*> of a substance by a power that is outside it. Interaction is the relation of substances with reciprocal influence <*commercium est relatio substantiarum mutuo influxu*>.[233]

In the text (cited above) Kant seems to be arguing the following:

1) Suffering corresponds to influence (the receiver's end of it, anyway).

2) Interaction is "reciprocal influence."

3) Reciprocal influence is therefore reciprocal (two-way, not one-way) suffering.

Since, under my interpretation, suffering (or influence) is explicated in terms of one substance's external activation of another's internal agency, and since interaction is reciprocal influence, the emerging model of interaction appears to be one where two (or more) substances, x and y, reciprocally activate each other's internal agency.

Given that by providing a model of interaction Kant's aim is to provide a model of intersubstantial causation, why should interaction be modeled on two-way (not one-way) external activation? If interaction is Kant's model of intersubstantial

[233] *LM, Metaphysik L,* 28:565.

causation, why wouldn't one-way activation would be sufficient? If interaction meant one-way activation, then only one substance acts, another suffers. If, however, interaction meant two-way activation, then two substances act; two also suffer. Both cases would, however, count as *inter*substantial causation in that the causal relation consists in one substance acting on another. We can therefore pose the question why Kant models interaction on *reciprocal* external activation if all he wants to do is offer an account of intersubstantial causation. Is there some other aim the model of interaction is intended to serve? Under the assumption that there is, we can pose the further question whether (in Kant's mind, anyway) there exists some threat that motivates him to build causality of a *two-way* sort into his model of interaction.

6.6 Reciprocal Activation As Antidote To Metaphysical Isolation

As already remarked, absolute entirety (completeness) is one of three major conceptual requirements of the generic concept of a world. That is, the world is an absolute whole, one that is not a part of another whole. Since (according to Kant) anything represented as a world stands under the requirement of absolute wholehood, and since the parts of a world are substances, the conceptualization of a plurality of substance-parts requires reference to a relational structure ("form"). This relational structure would, of course, have to make it possible for substances to be connected so as to meet the wholehood requirement imposed by the concept of a world in general. So one issue is under what conceptualization of the relational structure would its membering relata (a plurality of substances) count as constituent parts of a single

whole. But since the concern over how to interpret a relational structure reflects a concern over how to conceptualize its contribution to the constitution of *a world*, the issue is not a purely mereological one; rather it is also a cosmological issue.

In *ID* Kant seems to be acutely concerned with the question, 'In which sensible form, space or time, would a multitude of entities be connected as parts in such a way that the whole they jointly constitute counts as a world?' In other words, under which interpretation, temporal or spatial, would the relational structure relate a plurality of substances in such a way that constitutes a world-whole? In *ID* Kant's answer is explicit: the interpretation under which the relational structure would be most world-like is a *spatial* one.

> Everything that is simultaneous in reciprocal relations belongs to a whole: *contra vacuum* [*crossed out*: *separans*] *interrumpens* (*vacuum terminans*); from this follows continuity [*breaks off*].[234]

There are at least two reasons for Kant's prejudice against an exclusively temporal conceptualization of the world's relational structure. First, under such an interpretation, a plurality of substance-parts appears to be unable to meet the entirety requirement of the concept of a world in general. Second, under an exclusively temporal interpretation of the relational structure substance-parts could not coexist. (See diagram below.)

[234] *NF*, 17:648-9.

Diagram: (Which Sensible Form Is The Most World-Like?)

Relational Structure	Plurality-Type[235]	Entirety Requirement	Coexistence
A) Temporal	Diachronic parts	No	No
B) Spatial	Synchronic parts	Yes	Yes

My present aim is to elaborate on Kant's *ID* argument for dimension (A) in the Diagram above. In *ID* Kant argues that:

1) The world is an absolute (not a comparative) whole, meaning that it is a whole that is not a part of a larger one;

2) A successive series is, however, always part of a larger one; therefore, a world-whole could never be constituted as a diachronic totality, because when conceptualized as such it could not be conceptualized as absolutely complete:

> Accordingly, there is no series of successive things except one which is part of another series. It follows that, for this reason, comprehensive completeness or absolute totality seems to have been banished altogether here.[236]

When conceptualized as a diachronic plurality, the world's substance-parts would not be contemporaneous with each other; instead each part would exist successively to the other. But this result evidently violates (in Kant's mind, anyway) a requirement imposed by the concept of a whole:

> For, although the notion of a part could be taken universally, and although all the things which are contained under this notion might constitute a single thing if they were regarded as posited in the same series, yet it seems to be

---

[235] In an effort not to rely too heavily on Kant-internal jargon, I have been using 'plurality' instead of 'manifold'. So, under the heading of 'Plurality-Type', would fall two subtypes of manifold, diachronic and synchronic.

[236] *ID*, 2:392.

> required by the concept of *a whole* that all these things should *be taken simultaneously*.[237]

And, later, in the same paragraph Kant states:

> It may, perhaps, be thought that the difficulty which confronts the totality of a successive infinite does not apply in the case of a *simultaneous infinite*, because the *simultaneity* seems expressly to declare that there is a combination *of all things at the same time*. But if a simultaneous infinite were admitted, one would also have to concede the totality of a successive infinite -- for if the latter is denied, the former is also cancelled. For a simultaneous infinite provides eternity with inexhaustible matter for progressing successively through its innumerable parts to infinity. Yet this series, when completed with all its numbers, would be actually given in a simultaneous infinite, and, thus, a series which could never be completed by successive addition could nevertheless be given *as a whole*.[238]

One thing is abundantly clear from these texts. It is this: that whereas a "successive infinite" does *not* meet the entirety (or absolute completeness) requirement imposed by the concept of a world in general, a "simultaneous infinite" does. In other words, a diachronic plurality of substance-parts is not able (according to Kant) to meet the entirety requirement, whereas a synchronic plurality is able to meet this requirement.

A number of issues arise here. First, assuming Kant's argument is sound, how does the issue over whether a strictly temporally defined relational structure meets the entirety requirement of the concept of a world in general translate into an issue over metaphysical isolation? Second, from where does Kant derive the concept of a whole that mandates that all of a whole's parts must exist *at the same time*? Is this concept contained in the concept of a world in general? It would seem that this concept

---

[237] Ibid., 2:392.

[238] Ibid., 2:392.

derives from the concept of space, unless there is some other, more basic conceptual content here, that, while not itself contained in the concept of space is nevertheless intimately linked to that concept. But what concept could this be? It is my contention that Kant's model of interaction is largely motivated by the intention to avert the threat of metaphysical isolation. My present aim is therefore to show how the concern with meeting the entirety requirement is connected to the concern to avoid metaphysical isolation.

Notice that the argument above is stated in largely ontological terms, meaning that any or all reference to space and time (and the substance-parts located in these relational structures) as *representational contents* is entirely suppressed. In this argument Kant appears to be treating space and time as if they were real ontological structures of the world. However, as early as ID both space and time are (in Kant's view) "subjective and ideal." The apparent ontological orientation of this argument is therefore not intended to contradict the ideality and subjectivity of space and time; rather it should be taken to indicate the *angle* from which Kant is comparing the two interpretations of relational structure, one from which each is being assessed for its suitability to serve as the internal representation of the world's real relational structure. We will make more use of this observation shortly.

6.6.1 Why Metaphysically Isolated?

As remarked, the concept of a world in general imposes the entirety (or completeness) requirement. The basic idea is this: Under an *exclusively temporal*

conceptualization, the relational structure would make it ontologically impossible for all the world's substance-parts to coexist: for every currently existing substance-part there would (and could) be no contemporary; each substance-part would therefore be metaphysically isolated from the other substance-parts. Indeed, if time were the essential relational structure of the world, then absolute completeness would be impossible; in which case one (of three) conceptual requirements imposed by the concept of a world could not be met. Assuming that the intensional components of the concept of a world are all necessary, it follows that under an exclusively temporal conceptualization of the world's relational structure, no world-*whole* could exist, because (under this interpretation) time's necessary successiveness would make it impossible for the world's substance-parts to exist all at once. Under an exclusively temporal conceptualization of its relational structure, the world would therefore be chronically incomplete, thereby violating one (of three) conceptual requirements imposed by the concept of a world in general.

Why, exactly, would substances be *metaphysically* isolated? Substance-parts would of course be temporally isolated because each one would be assigned an absolutely unique temporal position in either of three (mutually exclusive) tenses -- past, present, and future. And because no part of time can be concurrent with any other temporal part (owing to time's necessary successiveness), a substance-part's present-tense existence implies that it is not only temporally but also metaphysically isolated from all other substance-parts. Substances whose temporal positions are set in the past do not exist; those whose temporal positions are set in the future do not

exist; therefore, any substance-part that exists in the present is flanked by substances that belong to a domain of nonexistence, either those that have been (but don't currently exist) or those that will be (but don't currently exist).

You might reasonably ask why a plurality of substance-parts cannot exist at (or, more precisely, *in*) the same time? Why, in other words, can't two or more substances be assigned the same position in time? A detailed discussion of this issue cannot be given here. Suffice it to say that (according to Kant) the cognitive acknowledgement of several entities *as a plurality* requires the capacity to count.

> We cognize a multitude successively, we cognize a *multitude* by adding one to one <*unum uni addendo multitudinem cognoscimus*>, i.e., through counting, thus with every number a multitude is present ... For number <*numeris*> is indeed a *multitude* cognized by counting (by adding one to one).[239]

But Kant thinks, in addition, that there is a dependency relation between the cognitive operation of counting (one potato, two potato, three potato...) and the successive structure of time:

> No one can define the concept of magnitude in general except by something like this: That it is the determination of a thing through which it can be thought how many units are posited in it. Only this how-many-times is grounded on successive repetition, thus on time and the synthesis (of the homogeneous) in it.[240]

[239] *LM*, 29:993.

[240] *CPuR*, B300.

Thus counting is (in Kant's mind, anyway) a cognitive operation that is intrinsically successive; time is therefore the condition under which counting performances are possible.

The ontologically-oriented *ID* argument reconstructed above (which relies exclusively on precritical texts) can be seen to have a critical counterpart in a more cognition-oriented first critique context, where a parallel line of reasoning can be plausibly constructed in light of Kant's model of counting. Let x be a material composite. In order to discursively represent x as a material composite, x must be represented under the (schematized) category of number. But for x to be mathematizable, x must be representable *as a plurality* of parts. According to Kant it stands to reason that each of these parts must be counted and so each will demand separate representation.

> Every intuition contains a manifold in itself, which however would not be represented as such [as a manifold] 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.[241]

In order to represent an intuited manifold ('manifold' meaning 'plurality') as something[242] *plurally constituted*, each of its several constituents (or "elements")

---

[241] Ibid., A99.

[242] Indeed it may be more accurate to say: as *one* thing plurally constituted: "Understanding is, generally speaking, the faculty of cognitions. These consists in the determinate relation of given representations to an object. An object, however, is that in the concept of which the manifold of a given intuition is united" [B 137]. Under Kant's model of cognition, the intentional object of a cognitive state is always a whole, or, at any rate, something composite: a complex content. (For an interpretation of Kant's view of the mind along these lines, see Dickerson's *Kant on Representation and Objectivity*.) According to the Axioms of Intuition, all objects of empirical cognition must be mathematizable; that is, they must be subsumable under the categorial concept of number.

must receive separate representational billing in my first-personally structured intentional awareness. Counting each (of a plurality of) parts would therefore involve cognizing a series of temporally-positioned representational states in which *exactly one part* is the singular referent of each successive state. But since past times and future times do not exist, it follows that the counting performances I made at earlier times and the ones I will make at later times do not exist, either. (And unless there is a transtemporal counting-self in whose memory banks these prior counting performances are stored, they are entirely lost to me. But, in the present context, let's not focus on the count*ing* but rather on the count*ed*.) Under an exclusively temporal interpretation of the relational structure, there would be no domain of existence where the multiple singular referents (generated by my counting performances) could accumulate into a mathematizable aggregate because each *part* (along with my counting performance) would pass out of existence the moment its successor was counted. (Think, analogously, of trying to accumulate a pile of dry leaves on the surface of moving stream.) Kant uses reasoning along these lines to argue for the necessity of a nonexclusively temporal relational structure (space), one where the synchronic accumulation of counted parts is possible. [Maybe this paragraph is better as footnote.]

> We cannot represent any number except through successive enumeration in time and then grasping this multiplicity together in the unity of a number. This latter, however, cannot happen except by my placing them beside one another in space: for they must be conceived as given simultaneously, i.e., as taken together in one representation, otherwise this multitude does not constitute a magnitude (number); but it is not possible to cognize simultaneity

> except insofar as, beyond my action of grasping it together, I can apprehend (not merely think) the multiplicity as given both forwards and backwards.[243]

If an exclusively temporal interpretation were imposed on the world's relational structure, then concept-users would be forced to assign the world's parts to different (unique) temporal positions. In that case, the world's prospective substance-parts would constitute a diachronic (not a synchronic) plurality. This does not, however, imply that these substances would be *causally* isolated. We could therefore conceptually map cause/effect relations over temporal before/after relations.[244] This suggestion would certainly not be foreign to Kant, since this is precisely what he does in the first critique's Second Analogy. On this suggestion, interaction would be modeled in terms of one-way (not two-way) suffering (explicated as external activation). Although a substance-part whose existence is assigned to a unique temporal position could never exist contemporaneously with any other temporal part (owing to time's necessary successiveness), one substance could (in Kant's mind, anyway) produce an effect in another substance at the moment its existence is temporally succeeded by the existence of the causally affected substance.

We've just seen how two or more substances in an exclusively temporally defined relational structure cannot exist as contemporaries but nonetheless can be

---

[243] *NF*, 18:616-17.

[244] Of course more conditions would be required, one of which is that causal relations are norm-governed. The criterion for objective one-way causal relations is the (counterfactual) nonreversability of the (de facto) event sequence. Kant's famous example is that of a ship flowing down river. Of course we have to build in more conditions here also, one of which is that boat doesn't have an out-board motor. In the absence of any power of self-locomotion, boats must travel in the same direction as the body of water in which they are afloat.

causally related. So Kant's beef with an exclusively temporally defined relational structure must be due to something else, given that the causal structure would still be (unidirectionally) in tact under this conceptualization. This suggests that it's not causal but rather metaphysical isolation that Kant views as the primary threat. Metaphysical isolation is the opposite of what Kant repeatedly refers to as "coexistence" or "presence."

> The representation of space is nothing imaginary that is related merely to the subject (all-embracing), but is rather a condition for representing outer things and a means for ordering them. The order is in accordance with inner form.
>
> The omnipresence of space and the eternity of time. That space is always present, i.e., it is itself the condition of all presence, for through it is presence cognized.
>
> The former means that we cannot intuit anything as present except insofar as it is somewhere in space.[245]

Substances that have comembership in one world are "present" to one another. In this section the aim has been to show how, under an exclusively temporal interpretation of the relational structure, a plurality of substances would be metaphysically isolated. In the next section the aim is twofold: first, to show how, under an *extra*temporal interpretation of the relational structure, a plurality of substances can be conceptualized as coexisting parts of one whole and, second, to clarify the link between this extratemporal interpretation and the concept of reciprocal interaction.

---

[245] *NF*, 17:642.

6.6.2 Interaction and the Representation of Space

Above it was observed that Kant's prejudice against an exclusively temporal interpretation of the relational structure reflects his concern with conceptualizing an internal representational correlate for the world's *real form*. We have just seen that it is a spatial (not exclusively temporal) interpretation of the relational structure that he thinks is required. Only under a spatial interpretation is a plurality of substance-parts able to exist at the same time (and so fulfill the entirety requirement). Space makes it possible for a plurality of substance-parts to coexist, to be "present" to each other. Time, however, fails in both these respects. This might be taken to suggest that simultaneity relations (among the members of a plurality) are *world-constituting* relations that they are relations in which a plurality of entities must stand in order to constitute a world. But in view of Kant's "space is in us" thesis, the cognition of simultaneity relations is not epistemically equivalent to the cognition of a mind-independent order of spatially coordinated entities.

Space does, however, play a vitally important role in Kantian epistemology. Space is, after all, a "sensible form" (*ID*) or "sensible form of outer intuition" (*CPuR*). Viewed as such space is the condition under which representational systems such as ours can be sensorily affected. Indeed Kant says externality (to our representational systems) is to be explicated in terms of spatiality. Concept-users' cognition of simultaneity relations would therefore appear to amount to the cognition of an internal representation of *something external*. What would this "something external" be? Kant's answer is fairly explicit in *ID*:

> Accordingly, the following question, which can only be solved by the understanding, remains untouched, namely: *what is the principle upon which this relation of all substances itself rests, and which, when seen intuitively, is called space?* The hinge, then, upon which the question about the principle of the form of the intelligible world turns in this: to explain how it is possible *that a plurality of substances should be in mutual interaction with each other*, and in this way belong to the same whole, which is called a world. We are not here contemplating the world in respect of its matter, that is to say, in respect of the natures of the substances of which it consists, whether they are material or immaterial. We are contemplating the world in respect of its form, that is to say, in respect of how, in general, a connection between a plurality of substances comes to be, and how a totality between them is brought about.[246]

The picture emerging here is that there are *two* relational structures, or, at any rate, two interpretations of the world's relational structure -- one *spatial* the other *causal* -- the first being entirely subjective (or "in us"), while the other being an objective mind-independent world-constituting relational structure. (See Diagram below.) Notice that under a causal interpretation the relational structure is explicitly conceptualized as "mutual interaction," as two-way (not one-way) causation.

Diagram 6.6.2:

Relational Structure	Form-Type	Faculty Affiliate	Ontological Status
Spatial	Sensible	Sensibility	Ideal (Subjective)
Causal (Interaction)	Intelligible	Understanding	Real (Objective)

A number of issues arise here. One issue is over how to conceptualize the relation between the relational structure under a spatial interpretation and the relational structure under a (two-way) causal interpretation. In the text (cited above) Kant appears to be concerned with *explaining* one relational structure by reference to the

[246] ID, §16.

other. Specifically, Kant appears to be explaining the spatially conceptualized relational structure by reference to one that is causally conceptualized. Since one is "in us" the other not, Kant is explaining the *appearance* or *internal representation* of a spatially interpreted relational structure by reference to a (two-way) causally-defined relational structure. Since the relational structure the world *really* has is a causal one, Kant's point seems to be that space is the internal representation of an external (two-way) causal structure.[247]

In fact the concept of interaction appears to do double duty. It provides, in ontological terms, the conditions under which a real (as opposed to a merely ideal) whole is possible; which is to say that it is used to conceptually explicate the conditions under which a real *world-whole* is possible, one in which a plurality of substance-parts are actually connected.

> The connection <*nexus*> is ideal if I merely think the substances together, and real if the substances actually stand in interaction <*commercio*>.
>
> The form of the world is a real connection <*nexus realis*> because it is a real whole <*totum reale*>. For if we have a multitude of substances, then these must also stand together in connection, otherwise they would be isolated. Isolated substances, however, never constitute a whole <*totum*>. If the substances are together, thus a whole <*totum*>, then they must also be a real whole <*totum reale*>. For were they ideal, then surely they could be represented in thought as a whole <*totum*>, or the representations of them would constitute a whole <*totum*>; but things in themselves would still not constitute a whole on this account.[248]

---

[247] In a first critique context, the concept of reciprocal interaction undergoes a transition in ontological status: whereas in ID its status can plausibly be read as real mind-independent relational structure of the world, in the first critique reciprocal interaction is conceptualized as one of "the categories of the understanding." Viewed in the latter sense, reciprocal interaction describes the relational structure of the phenomenal world, that is, the world as it is represented in human cognitive systems. In ID, however, Kant seems to think that the causal order is really mind-independent. But I cannot substantiate that point here.

[248] *LM, Metaphysik Mrongovius*, 29:851.

But the concept of interaction appears, in addition, to function along another, more epistemic, dimension. It is used to explicate the (or, at any rate, *a*) condition under which *cognitive reference* to a world is possible:

> Substances are reckoned to the world, insofar as they stand in real connection <*in nexu reali*> and thus in interaction <*commercio*>. The aggregation of the substances in which there is no community still does not constitute a world. Reciprocal determination, the form of the world as a composite, <*compositi*>, rests on the interaction <*commerico*>.[249]

The concept of interaction's double uses (the ontological and the cognitive) appears to merge in the first critique. In the Third Analogy, Kant seems to think that, by using the "[p]rinciple of simultaneity, according to the law of interaction, or community," concept-users are in an epistemic position to regard the internal representation of space (of simultaneity relations) as an *indicant* of an external (world-constituting) causal structure.

> All substances, insofar as they can be perceived in space as simultaneous, are in thoroughgoing interaction.[250]

> *The unity of the world-whole, in which all appearances are to be connected, is obviously a mere conclusion from the tacitly assumed principle of the community of all substances that are simultaneous: for, were they isolated, they would not as parts constitute a world, and were their connection (interaction of the manifold) not already necessary on account of simultaneity, then one could not infer from the latter, as a merely ideal relation, to the former, as a real one. Nevertheless we have shown, in its proper place [in the Third Analogy], that community is really the ground of the possibility of an empirical cognition of coexistence, and that one therefore really only infers from the latter back to the former, as its condition.[251]

---

[249] LM, *Metaphysik* L_1, 28:196, underscoring added.

[250] *CPuR*, B256-57.

[251] *CPuR*, A219/B265.

Kant seems to be giving a set of possibility-conditions for simultaneity relations. Since relations of this sort are possible only under a spatial interpretation of the relational structure, it would therefore appear that coexistence is also possible only under such an interpretation.

This text requires some careful nuancing. Kant seems to be saying that coexistence is *cognitively simulable* in human systems because they are capable of representing simultaneity relations; he is not, however, saying that *coexistence* is possible only because simultaneity relations are cognitively simulable.

> The connection <*nexus*> is ideal if I merely think the substances together, and real if the substances actually stand in interaction <*commercio*>.[252]

Coexistence is supposed to be a property or feature of things in the real world; space represents how systems like ours subjectively compute that coexistence. In view of the evident *isomorphy* between interaction and the representation of space (simultaneity relations)—that they both require coexistence—Kant's view seems to be (plausibly enough) that the mind's empirical representation of space is a *function of* its aim to represent multiple singular objects under the concept of interaction (= the understanding's category of community). It would therefore appear that the representation of multiple entities in space is the system's "sensible" interpretation of this "intelligible" causal structure.

Suppose, however, that the concept of coexistence were to be conceptually

---

[252] *LM*, 29:851.

analyzed wholly in terms of space. On this hypothesis, space (simultaneity relations) would constitute the analysans, and it would be only in these terms that we could meaningfully think coexistence. Under the current scenario it would therefore be impossible for Kant to conceptually engineer other independent and nonspatial terms in which coexistence could be *thought*. On Kant's model of human representational systems, we must of course perceptually compute coexistence *in terms of* space. But, on my view, the whole *point* of his model of interaction is to provide a *conceptual template*, one that can explanatorily underwrite the empirical representation of a single cross-referable space. But if this is the point of the model, then the concept of coexistence cannot be intensionally analyzed exclusively in spatial terms; rather there needs to be other semi-independent[253] and nonspatial terms in which to think coexistence (ones that refer to a causal structure of a certain type), so that when our perceptual systems undertake to represent two or more entities under *these* terms, the sensory result is an empirical representation of space. Only then would it make sense to *use space* (or the empirical representation of it) as a means to epistemically *triangulate* on an external something[254] (a real causal structure) and consequently

---

[253] I use 'semi-independent' because according to Kant the pure categories are mere nonreferring thought forms when considered independently of schemata; however, that these schemata have different content is owing to the formal content of the correlative category. So the category obviously makes some, even if formal, conceptual contribution on Kant's view; otherwise how could you explain the differential in schemata?

[254] In a Copernican context, intra-phenomenal mind-externality is not equivalent to absolute mind-independence. Since externality (to our representational systems) is to be explicated as spatiality, intraphenomenal externality is to be explicated in narrower terms, as externality to *my* first-personally structured phenomenal awareness, that is, to *my* individual embodied cognitive system. The basic idea here is that the Third Analogy principle is to be used, in a first-personally structured setting, such that in following it I can regard my perceptual contents as referring to an order of entities that

make an (a priori) judgment[255] about the coexistence of multiple entities.

What Kant is saying here is therefore similar to what he claimed earlier in ID. Kant is (in the Third Analogy) conceptualizing a causal structure as the condition under which space (simultaneity relations) are possible. The causal structure hypothesized to explanatorily underwrite (the cognition of) simultaneity relations is therefore the same one hypothesized in ID, namely, "real relations" conceptualized in terms of two-way (not one-way) interaction. Finally, it's clear from the text (cited above) that Kant thinks that the world's substance-parts *do* stand under the threat of metaphysical isolation: Were the possibility conditions of the representation of space to go unmet, the empirical cognition of coexistence (= the representation of a spatially extended all-encompassing physical environment) would not be possible.

---

exist synchronically; which is to say that these spatial entities must co-exist in the same domain and so be "external" to me. The Third Analogy principle is therefore one the system uses as a cognitive means of contrasting the representation of its own individual subjectivity (computed solely in terms of temporally successive states) against its "objective" representation of externality (space). And this is made possible by conceptualizing my phenomenal self as an embodied cognitive system, one that is differentially positioned in public space. However, since my sensible representation of space is chronically perspectival (thus always partial), the representation of a world-whole must be supplemented with an additional (intellectual) faculty, one that can conceive of space in public (nonperspectival) terms, namely, as an "objective" causal structure (see also 11.2-4). Kant explicates objectivity in terms of "necessary universal validity." See Ginsborg (1990) for an illuminating analysis of this claim in the context of her cognitive-oriented interpretation of Kant's third critique.

[255] It is not clear to me whether this judgment expresses an inference. In the Refutation of Idealism (and elsewhere) Kant insists that we have immediate cognition of external (= spatial) entities; we do not have to make inferences to their existence (as Descartes says). In light of this, I tend to think that the judgment being made on the basis of the Third Analogy principle is not inferential; rather it expresses a more intimate cognitive link between simultaneity relations and the concept of interaction, one that is possibly supposed to operate subpersonally, but which concept-users can become cognitively aware of in a way analogous to, say, becoming aware of the respiratory functions of their autonomic nervous system. Similarly, you, on the personal level of description, don't have to consciously form these judgments (about coexistence); rather your representational system operates subpersonally under this (Third Analogy) principle; you can, however, become aware of this cognitive operation and its guiding principle and cognitively join in (as you might by voluntarily engaging your respiration). I offer these observations as mere conjecture here.

And because Kant explicitly includes reciprocal interaction among these possibility conditions, this fact can plausibly be taken as confirmation that he considers a model of interaction to be what's necessary to avert the threat of metaphysical isolation.

6.7 Kant's Alternative: The Model of Interaction

Prior analyses of Kant's account of suffering has so far generated the following list of components:

a) the internal agency condition on accident inherence (the inherence condition)

b) the uniqueness condition on the exercise of agency

c) the external activation requirement

Recall Kant models effects on accidents, or, more precisely, on accident inherence. The inherence condition says that an accident can inhere in a given substance provided that the accident is the effect of the substance's internal agency processes. The uniqueness condition applies to substances so long as they are conceptualized on the model of agents. It says that there is *exactly one agent per substance*, that is, a single possessor and exerciser of causal power per substance. The external activation requirement says that a substance suffers only if the accident it produces (in itself) is one it would not have been *able* to produce had its internal operations not been externally activated to do so by another substance. Since, under my interpretation, suffering (or influence) is explicated in terms of one substance's external activation of another's internal agency, and since interaction is reciprocal influence, the emerging

model of interaction appears to be one where two (or more) substances, x and y, reciprocally activate each other's internal agency. (See 3.5.1 for textual support.)

In section (4.6) the reciprocal (two-way) causality component of interaction was motivated from within the interpretative framework suggested in 4.3. However no further analysis of the this component was offered. In the following sections, the aim is to provide an initial analysis of the two-way causality component of the model of interaction.

6.8 The Meat of the Model

In the extended Herder text (cited above), Kant appears to be asserting the external activation requirement but with a different twist:

> An accident thus inheres by its own power, which contains the *sufficient inner ground* of it yet also by *external* power, thus by *an outer ground* of inherence without which it would not have inhered. Now *properly no substance can contain the ground of the accident of the other, if it does not at the same time contain the ground of the substantial power and of the existence of the other*.[256]

Notice that in this text Kant appears to add something new to his account. He says: "Now *properly no substance can contain the ground of the accident of the other, if it does not at the same time contain the ground of the substantial power and of the existence of the other*." Compared to the Mrongovius transcript's parallel statement, this appears to be a somewhat stronger formulation of the condition under which a substance "suffers." In view of the fact that Kant has italicized the entire sentence

[256] *LM, Metaphysik Herder,* 28:52.

(cited above), it's evident he considers it to be of some importance to his account of suffering, and, by extension, to his model of interaction. Getting a better semantic grasp on the italicized statement will therefore likely shed light on both.

Understanding the propositional content of Kant's (italicized) assertion depends partially on grasping the lexical terms used, partially on tackling internal reference issues. (Internal reference issues are examined in the next paragraph.) With regard to the former, we need to make it more explicit what Kant means when he says of a substance that it contains the ground of a substance's "substantial power and existence."

In regard to Kant's use of the terms "substantial power and existence," it has already been shown (or, at any rate, plausibly suggested) that Kant conceptualizes substances generally on the model of agents, as possessors and exercisers of causal powers. We can therefore hypothesize that Kant's use of 'substantial power' is intended to refer to a substance's causal powers. But Kant says of a substance that it contains not only the ground of a substance's (leaving the reference open) "substantial power" but also its "existence." Clarifying what Kant means when he says that a substance contains the *latter* must wait until we have tackled the internal reference issues.

As remarked, getting a better grasp of the content of Kant's (italicized) assertion depends partially on ironing out internal reference issues. There are two expressions in the italicized sentence above whose reference is ambiguous, namely, the first use of 'it' and the last use of 'other'. Disambiguating the use of these terms

leads to two formulations of Kant's assertion. Let x and y be different substances and let A be an accident. Then Kant's assertion can be disambiguated as follows: For some accident A inhering in y, x cannot contain the ground of A's inherence in y if:

1) *x* doesn't "at the same time contain the ground of the substantial power and of the existence of the other."

2) *y* doesn't "at the same time contain the ground of the substantial power and of the existence of the other."

The referent of 'other' here is not likely the accident inhering in the substance but rather another substance. But which? The referent of 'other' depends on which formulation, of course. Under (1), 'other' refers most plausibly to y; under (2) 'other' refers most plausibly to x. Under (1) Kant is saying that x cannot be the ground of A's inhering in y unless x also contains the ground of y's substantial power and existence. Under (2), Kant is saying that x cannot be the ground of A's inhering in y unless y (a different substance) contains the ground of x's substantial power and existence.

Is there a significant difference between these two formulations? The difference between (1) and (2) may be plausibly explicated along the dimension of *who* is dependent on *whom* for its causal efficacy. According to (1), because x contains the "substantial power and existence" of y, it is ultimately x itself that contains the condition under which *its own* causal efficacy (concerning y) is possible. Under (1) y appears therefore to originate no causal contribution: it owes both its causal efficacy and existence to x. The conditions of x's causal efficacy regarding y

are therefore (rather oddly) self-referential -- oddly, because Kant is supposed to be constructing a model of interaction. This suggests ('implies' being too strong here) a view of x and y's relation under which y is *metaphysically engulfed* by x. Notice, however, that under (2) it is y (not x) that contains the ground of x's substantial power and existence and that y's doing so is the condition under which x can causally interact with y. This point merits emphasis. Under (2) it is y (or something about y) that is the condition under which x's causal efficacy (concerning y) is possible. Under (2) the condition of x's causal efficacy (concerning y) is therefore not ultimately self-referential; which means that the condition of x's causal efficacy (concerning y) does not ultimately derive *from itself* but rather from a *different substance*, namely, y.

6.9 Which Formulation Should We Accept?

Under this initial analysis do we have any reason to favor one formulation over the other? The issue over which formulation should be accepted can be approached textually by determining whether there is any Herder-internal text indicating Kant's preference for one or the other; or, it may be determined by reference to other (Kant-internal) texts; or, finally, the issue may be approached (and plausibly settled) by hypothesizing implicit assertions or propositional commitments

from either of the first two textual approaches. In this section, I will adopt only the first of these approaches.[257]

Is there anything internal to the extended Herder text (from which Kant's italicized statement is excerpted) that indicates which formulation, (1) or (2), Kant intends? For starters, we can approach this question by examining the context in which the italicized statement occurs:

> An accident thus inheres by its own power, which contains the *sufficient inner ground* of it yet also by *external* power, thus by *an outer ground* of inherence without which it would not have inhered. Now *properly no substance can contain the ground of the accident of the other, if it does not at the same time contain the ground of the substantial power and of the existence of the other:* I cannot become the ground of a thought in another if I am not at the same time the ground of the power that produces the thoughts: in this manner *God is the ground If two substances are in interaction <in commercio>, the two depend on a third, so their powers are harmonious with one another: they stand in connection and relation, on account of the third substance which is the ground of both, and has willed a connection <nexus>*. E.g., the existence of the action of another does not depend simply one action and one power. Thus all predicates must be produced by one's own power, but since an external power is also required externally: then a third must have willed this harmony (established harmony <*harmonia stabilita*>). This connection <*nexus*> is between created beings, because the two in interaction <*in commercio*> must depend on a third.[258]

[257] The second (and third) approach just listed will be pursued in future research. In "Interaction As Category of the Understanding," (in progress) the aim will be to embed the model of interaction in the epistemic context of the first critique. In this first critique context, the issue is over whether the model of interaction (as I have reconstructed it) is conceptually encoded in a category of the understanding, specifically, "the category of community" (CAT 3.3). Suppose it is. Then (by hypothesis) we could expect it to be shown (or, at any rate, plausibly suggested) that if the enterprise of the Third Analogy requires the category of community to perform certain epistemic (or cognitive) roles, then the issue over whether the model of interaction is conceptually encoded in this category could be decided by whether the model is able to perform in the way required of the category of community. If the model of interaction succeeds in performing the epistemic roles assigned to the category of community (in the Third Analogy), its success in performing these roles could plausibly be taken as further confirmation of the model.

[258] *LM, Metaphysik Herder,* 28:52.

Notice, first, that immediately following the italicized statement previously analyzed, Kant hypothesizes the existence of a "third substance," namely God. Because the statement of this hypothesis is also italicized, we can infer Kant considers the proposition it expresses to be of some importance to the model of interaction he is constructing. In fact, the hypothesis expressed by the second italicized statement constitutes what I have called inference (A) of Kant's explanatory Model. (An analysis of and textual support for the inference structure of Kant's Model has already been provided. For details see chapter 3.) The inference Kant is describing proceeds *from* a plurality of substances embedded in a relational structure *to* the hypothesis of some third thing (here being referred to as God). As we have seen, however, it is the *idea* or *conception* of a whole that is hypothesized. (God is hypothesized also because some intentional agent, both smart enough and powerful enough, is necessary to engineer and execute the idea of a world-whole.[259])

Analysis of the text above yields the following three main components:

a) the first italicized statement

b) the second italicized statement

---

[259] The intentional agent hypothesized here must also be good enough (indeed morally perfect). This is because in order for the entirety of nature's products to constitute a world-whole, its products must be subordinate to the "absolute final end of nature" (AFE). Kant argues (in the third critique) that the only end that could fit the bill of this description is a morally-specified one, namely, the end of being a morally-free agent subject to the categorical imperative. In the third critique, Kant argues that the absolute final end of nature is "the highest good in the world" -- a morally-endorsed happiness. Under the morally-specified AFE, the intention to create a world-whole is to produce one where the moral law would be empirically *actionable*, where morally sanctioned ends could be set, staged, and played out in nature. Any intentional agent hypothesized to be the cause of the world-whole would therefore have to be smart enough to engineer a conception of it; powerful enough to execute that conception, and, finally, good enough to create a world under the guidance of a morally-specified AFE.

c) Kant's commentary on the first italicized statement (underscored text).

In (a) Kant offers us with a description of the (two-way) causal structure between two or more substances; this description, or conceptualization, is what provides the *meat* of the model of interaction. Notice, further, that under this description, two or more substances x and y are embedded in a two-way causal structure, one where their interrelations are *of a sort* "to depend on a third" (the idea or conception of a whole). As just remarked, I think that (b), the second italicized statement, expresses inference (A) in Kant's Model. What we are therefore seeing here is the assignment of a *functional role* to the model of interaction, one that is conceptualized within the larger framework of Kant's Model. Putting the issue over its precise content aside for the moment, the model of interaction's function within Kant's Model appears to be this: to provide a conceptualization under which two or more substances, x and y, are interrelated in such a way as to require concept-users to hypothesize "some third thing" (= idea or conception of a whole).

The question now is therefore this: Given this assignment of its functional role, what content would the model of interaction have to have in order to succeed in fulfilling it? In other words, which formulation above, (1) or (2), is conceptually more suited to providing a description of x and y's causal relations as the basis on which to hypothesize an idea or conception of a whole?[260]

---

[260] This is certainly the larger interpretative issue to which the model of interaction is answerable; however, we won't be in a position to see how the model performs in relation to this issue until later, when the model is completed.

We can read (c), Kant's commentary on the first italicized statement, in light of the question just posed. Notice (in the underscored text) that when Kant says "[t]hus all predicates must be produced by one's own power," he appears to be acknowledging (what I have called) the inherence condition. But Kant also says, "the existence of the action of another does not depend simply on one action and one power" and further insists that an "external power is also required externally." Here Kant appears to be alluding to (what I have called) the external activation requirement. Taken together, these statements may plausibly be read not merely as commentary but as a *corrective* (against misconstrual).[261] Furthermore, it seems fairly clear that Kant is directing this corrective at the first (not the second) italicized statement (cited above). We can therefore ask under which formulation of the *first* italicized statement, (1) or (2), would Kant's corrective make more sense? Whichever formulation we think is the more plausible target of Kant's corrective will also be the one we should reject as the intended meaning of the first italicized statement.

What, exactly, *is* the corrective? It appears to contain both a positive and a negative component:

Negative component: "the existence of the action of another [must] not depend simply on one action and one power;" instead:

Positive component: an "external power is also required externally."[262]

---

[261] This suggests Kant may have been aware of the ambiguity afflicting the first italicized statement.

[262] Text external to the Herder transcript (under analysis) apparently reiterating the requirement of an external power: "But no substance of any kind has the power of determining other

The aim now is to bring the analysis of the preceding section to bear on these components. Recall that the (first) italicized statement was disambiguated as follows: For some accident A inhering in y, x cannot contain the ground of A's inherence in y if:

1) *x* doesn't "at the same time contain the ground of the substantial power and of the existence of the other."

2) *y* doesn't "at the same time contain the ground of the substantial power and of the existence of the other."

As remarked, we can understand the difference between (1) and (2) along the dimension of *who* is dependent on *whom* for its causal efficacy. It was observed that the major difference between the two formulations, when explicated along this dimension, was this: Under (1), since x contains the "substantial power and existence" of y, it is ultimately x itself that contains the condition under which *its own* causal efficacy (concerning y) is possible. This gave us reason to characterize the conditions of x's causal efficacy (concerning y) as *ultimately* self-referential. Under (2), however, the condition of x's causal efficacy (concerning y) is not ultimately self-referential. This is because the condition of x's causal efficacy (concerning y) does not ultimately derive *from itself* but rather from a *different substance*, namely, y.

Of the two formulations it would appear to be (1) that the negative component (of Kant's corrective) is directed at, since under (1) it would be the case that x and y's

---

substances, distinct from itself, by means of that which belongs to it internally (as we have proved). It follows from this that it only has this power [of one substance determining others] in virtue of the connection, by means of which they are linked together in the idea entertained by the Infinite Being. It

causal interaction is ultimately dependent on one substance, namely, x. (Not so, under (2).) Under (1), y's causal efficacy (concerning x) is ultimately due to *x's* containing the ground of y's substantial power and existence. It is a different story under formulation (2), however. Under (2), it isn't the case that x contains the ground of its own causal efficacy (concerning y). On the contrary, it is *y* that contains the ground of x's causal efficacy (concerning y). So not only does (2) not make the mistake expressed in the negative component (of Kant's corrective), it also appears to fulfill the requirement expressed in the positive component. Under (2), x's causal efficacy (concerning y) is dependent on a power[263] that is both *separate* and *external* to x (namely, y). For reasons internal to the extended Herder text, it is therefore formulation (2), not (1), that should be accepted as the more plausible interpretation of the (first) italicized statement (cited above).

Given this result, Kant's assertion (in the first italicized statement) is therefore to be understood as follows:

> For some accident A inhering in y, x cannot contain the ground of A's inherence in y if *y* doesn't "at the same time contain the ground of the substantial power and of the existence of the other [x]."

As remarked, under (2) x's causal efficacy (concerning y) is dependent on a power that is both separate and external to x (namely, y). This is, I take it, what Kant means when he says (in the preferred formulation) that y "contains the ground of the

---

follows that, whatever determinations and changes are to be found in any of them, they always refer, indeed, to what is external" *(New Eluc*, 1:145-6, underscoring added).

[263] The intention is to state the results in terminology paralleling Kant's (in the positive component of his corrective). In fact, x's causal efficacy is dependent on y, conceptualized as an entity, a substance, whose internal structure makes x's causal efficacy (concerning y) possible.

substantial power ... of the other." However, Kant says that y contains *both* the substantial power *and* the existence of the other, x. So in what sense does y contain the ground of x's *existence*? Before answering this question (in the next section), a point of clarification is required. It frequently happens that in order to describe some feature of their causal structure, only one of the interactants is mentioned; however, in view of Kant's intention to provide a model of *reciprocal* interaction, it is plausible to suppose that he intends whichever structural feature he is describing in relation to the one interactant to apply also to the other. It should therefore be borne in mind that the question just posed in relation to x could also be restated in relation to y: In what sense does x contain *y's* substantial power and existence?

6.10 Interaction and Metaphysical Interdependence

Let me begin this section by stipulating the following terminology:

> MD: x is *metaphysically dependent* on y iff to be what it is x must stand in some relation to y.

To assert that x and y are metaphysically *inter*dependent would therefore be to assert:

> MID: In order to be what each is, x must stand in some relation to y and y, reciprocally, must stand in some relation to x.

There are a number of issues that arise here. First, there are lots of ways a thing can be. Some ways of being are, however, more essential to a thing's identity than others. Entities, particularly material ones, are multi-dimensional (literally, from a geometrical standpoint). What MID above implies is that an entity's *relations* to other entities contributes *significantly* to *what it is*. There is a second (and closely

related) issue: Under what *substitution instances* of x and y would x and y count as metaphysically interdependent? What, in other words, would x and y have *to be* in order for it to be the case that each depends metaphysically on the other? Further, on the assumption that *there is* some conceptualization under which x and y were metaphysically interdependent, it's clear that this relation would require x and y's *coexistence*. What this means for concept-users is that x's existence could not be asserted unless y's was also (and vice versa).

This section inherits its aim from the previous one, namely, to clarify what Kant means when he describes the relation between two interactants, x and y, as follows:

> For some accident A inhering in y, x cannot contain the ground of A's inherence in y if *y* doesn't "at the same time contain the ground of the substantial power and of the existence of the other [x]"

My present focus is on how x can contain the ground of y's *existence* (and vice versa). I propose (as an interpretative hypothesis) to understand this key feature of the model of interaction in terms of metaphysical interdependence: 'x contains the ground of y's substantial power and existence' means that, in order to be what it is, *y* must stand in some relation to x; reciprocally, 'y contains the ground of x's substantial power and existence' means that, in order to be what it is, *x* must stand in some relation to y.

The substitutional instances of x and y stand under certain requirements, some deriving from the proposed hypothesis, some independent of it. First, as substances, x and y can clearly not (under the proposed hypothesis) be conceptualized as independent stand-alone entities; they must therefore forfeit their metaphysical

independence. (See chapter 2 for an argument motivating this forfeiture.) Second, since it is a structural feature *of the model of interaction* (indeed the meat of the construct) that I am proposing to understand in terms of metaphysical interdependence, the relation of interdependence must be understood as a causal one. It has already been shown (or, at any rate, plausibly suggested) that Kant thinks interaction is a two-way causal relation which (if it occurs) obtains among a plurality of substances and, in addition, that he conceptualizes substances on the model of agents. (See 4.3-1.) Thus, not only should the entities substituted for x and y be minimally capable of doing duty as causal interactants, the model of their interaction should, in addition, illuminate how x and y may be thought of as metaphysically interdependent.

In light of these requirements, we can now return to the issues raised above. What would x and y have to be in order for it to be the case that each depends metaphysically on the other? As remarked, under the proposed interpretation the substitutional instances of x and y must be substances conceptualized on the model of agents. To be a substance is essentially to be a causal agent (a possessor and exerciser of causal powers). If x and y are metaphysically interdependent, then that interdependency would therefore have to be conceptually explicated along the dimension of what each is as a causal agent. One would therefore expect to find Kant advancing a conception of *causal agency*, one under which a substance could possess and exercise its agency only on the assumption of (and in relation to) another substance. And this is, I suggest, what we find. (At any rate, this is what I argue in

the next chapter.) The aim now is to determine whether Kant *has* a conception of interdependent causal agency (answer seems to be yes) and, if so, how precisely to spell out its contribution to the model of interaction.

Chapter Seven

THE NECESSITY OF TRANSCENDENTAL AGENCY

> From 1755 on, there are two central questions in Kant's metaphysics. First, how can things (bodies, substances) form one world, not solely in the representations of thinking monads, but really and materially, that is, as a world constituted by universal physical interaction? Second, on what principles does our knowledge of such a world rest.
>
> —Burkhard Tuschling

7.0 Introduction

As already shown, reciprocal external activation requires internal causal systems on the part of all substances party to interaction. You might think that the model of interaction is therefore equivalent to constructing the mirror-image of Kant's account of suffering. After all, didn't we conclude (in 4.5.1) that interaction must, minimally, be modeled on two-way (not one-way) suffering? Yes. But because the account of suffering focuses on the *receiver's end* (the production of an accident in a substance), we therefore have a model of x and y's interaction under which there are (so far) only *two patients* (two sufferers) but *no actors*. We have, in other words, a model of x and y's interaction under which each is to be the mere receptacle of the other's effects, but still no detailed account of how that interaction would be possible.

As we shall see later, possessing the capacity to suffer (to produce the effects of another substance) isn't (in Kant's mind, anyway) sufficient for an entity to be a substance. What *else* is needed? As the core of the model of interaction suggests,

what is needed is a second set of causal powers, one explicated in terms of and by reference to what effects a substance can produce *externally*. This is, in fact, a

condition under which two-way external activation is possible. But since Kant conceptualizes substances on the model of agents, it appears that he must acknowledge a corresponding type of externally-directed causal efficacy, one that makes it possible for one substance to causally interact with another.

It would therefore appear that there are two main concerns here. First, there is the issue over whether the model of interaction can function under a *single* account of self-activity, one where *only* the self-activity involved in a substance's external activation is acknowledged. Since, as we will see shortly, the model cannot work under a single conception of this kind, two other related sub-issues arise here, the first being a concern over how the additional type of self-activity is to be specified, the other being a concern with whether Kant even *has* a conception of self-activity of the required type. (On my view, the model of interaction demands (of the interactants) a type of self-activity that is self-originating; moreover, I think that we can find a conception of this type of self-activity in Kant.) The second main concern is whether conceptually convincing links can be established between this other (more original) type of self-activity and the model's demand for externally-directed causal efficacy. The concern over how these two can be conceptually linked reflects Kant's concern with how to engineer (for the model of interaction) a conception of substantial agency that is both externally-directed *and* causally efficacious.

I have divided the analysis of Kant's model of interaction into two main parts in order to coincide with these two main concerns. In the present chapter, I address only the first of these two main concerns, while in sequel I will address the second.

7.1 Self-Activity and Substancehood (Revisited)

The model of interaction trades on a substance-concept according to which, in order to count as one an entity must be capable minimally of self-activity. We might formulate this self-activity requirement (SAR) as follows:

(SAR): x is a substance only if x is capable of self-activity.

What sort of self-activity must something is capable of in order to count as a substance? Consider an excerpt from parallel discussion (of interaction) recorded in the *Mrongovius* transcript:

> We can never be merely passive, but rather every passion is at the same time action. The possibility of acting is [a] faculty <*facultas*>, and of suffering receptivity <*receptivitas*>. The latter always presupposes the former. Every substance is self-active, otherwise it could not be a substance; it can be suffering in one relation <*respectu*>, but can also be active in the same. A merely suffering substance is a contradiction <*contradictio*>; otherwise it could not have any accidents.[264]

Here Kant explicitly asserts that for something to be a substance it must be capable of self-activity. What does this self-activity consist in? Here Kant seems to be explicating a substance's self-activity in terms of its ability to produce effects (accidents) in itself (when externally activated). But then Kant appears to zero in on the receiver's end of the suffering relation in order to target it for a dual characterization, one under which a substance's suffering can be characterized as both active and passive. It is therefore an *intra*substantial causal relation that Kant targets for this dual characterization. (See diagram A below.)

Kant makes this more explicit in a parallel Mrongovius transcript:

[264] *LM, Metaphysik Mrongovius*, 28:823, underscoring added.

> Substance acts, insofar as it contains not merely the ground of the accidents, but rather also determines the existence of the accidents; or substance, insofar as its accidents inhere, is in action, and it acts insofar as it is the ground of the actuality of the accidents; that substance suffers (*passive*) whose accidents inhere through another power. How is this passion possible, since it was said earlier that it is active insofar as its accidents inhere? Every substance is active insofar as its accidents inhere, but also passive, insofar as they inhere through an external power.[265]

Here again (but more explicitly) Kant applies the active/passive characterization to a substance's self-activity along the same intrasubstantial dimension. A substance's self-activity is being explicated along the dimension of its capacity to produce effects *in itself*. This capacity is active in that the effects (accidents) produced thereby require the exercise of the substance's self-activity; passive in that the exercise of that self-activity requires external activation.

Diagram A: Active/Passive Dimensions Applied Intrasubstantially

Interactant	Causal Power	Effect Produced	Effects Domain
y	Passive	Self-activity (y's)	Internal (to y)
y	Active	Accidents (y's)	Internal (to y)

One implication of this intrasubstantial mapping is that, within the model of interaction, the active/passive dimensions of one interactant's self-activity (as explicated above) must have its *structural counterpart* (mirror-image) in the other interactant.

Kant appears, however, to use the active/passive characterization in a somewhat different way than just explicated:

> The relation of a substance to the *accidens* is mere *actio*. Vis. That of substances to one another can be either *actio* or *passio*; if it is *mutua*, then it is

[265] Ibid., 29:823.

> *commercio*. [Translator's paraphrase: "In other words, if each substance is both active and passive with regard to the other, then there is interaction.[266]

Here it would appear that there is a dimension of a substance's self-activity along which its effects are to be conceptualized as ones it can produce *externally* (=in a different substance). Within the model of interaction the active/passive dimensions of a substance's causal relation to a set of effects is therefore mapped not only intrasubstantially but also intersubstantially; it is mapped over the causal relation *between* the interactants, x and y, not merely *within* each interactant. (See diagram B below.)

Diagram B: Active/ Passive Dimensions Applied Intersubstantially

Interactant	Causal Power	Effect Produced	Effects Domain
y	Passive	Self-activity (y's)	Internal (to y)
x	Active	Self-Activity (y's)	External (to x)

It would therefore appear that the model of interaction requires *two* distinct applications of the active/passive dimensions of a causal relation, one that applies to a substance's infrastructure, the other to the causal relation between two (or more) substances.

Under this new mapping, while the active/passive dimensions themselves do not appear to have changed, the *identity* of the interactant subsumed under each dimension has. In an intersubstantial context, the active dimension of a x's relation to a set of effects involves necessary reference to a different substance, y, because (in this context) the effects x is to be causally related *to* are supposed to be ones that

[266] *NF*, 18:144.

occur externally to it (namely, in y). So in this context, the passive dimension of the causal relation (to this same set of effects) isn't one that involves x at all. In an *intra*substantial context the passive dimension is to be explicated in terms of *x's* having been externally triggered into its self-activity; however, in an *inter*substantial context, where x and y constitute the relata of the causal relation, the passive dimension (of this relation) is to be explicated in terms of *y's* self-activity (not x's). In this new intersubstantial context, the active/passive dimensions of x and y's interaction (as it concerns a single set of effects) are therefore not to be staged and played out within a single substance. Rather insofar as a set of effects (say, occurring in y) is to be credited to the causal efficacy of the *other* interactant (x), one substance (y) must be referred to under the passive dimension, the other (x) under the active dimension.

7.2 Cross-Contextual Comparison of Active/Passive Dimensions of Self-Activity

In the preceding section, the active/passive dimensions of an interactant's self-activity were introduced, along with two different contexts, the intrasubstantial and the intersubstantial, in which this dual characterization is used. I explicated Kant's use of the terms 'active' and 'passive' in both of these contexts. In an intrasubstantial context, where both these terms apply to one interactant, 'active' refers to an interactant's self-activity while 'passive' describes the dependency (of that self-activity) on external activation. In an intersubstantial context, the terms 'active' and 'passive' were applied to different interactants. There, however, I mainly explicated

the difference between 'active' and 'passive' as a difference in the identity of the interactant assuming either dimension. In doing so, I suggested that the difference in the use of these terms is mainly a difference in *reference*. Here, however, I raise the issue over whether the use of these terms cross-contextually requires a corresponding alteration in their *meaning*.

The aim of the present section is to focus on the active dimension of an interactant's self-activity and to subject this focus to a brief cross-contextual comparison. Doing so will, I think, clarify the issue over whether the self-activity responsible for producing effects *intra*substantially is conceptually distinguishable from the self-activity responsible for producing effects *inter*substantially. This comparison consists therefore in selecting one or other of the interactants (say, x) and comparing the active dimension of its self-activity in an intrasubstantial context against the *same* dimension in an intersubstantial context. (See Diagram C below.) Shortly, in preparation for the next section, I will set up an analytic framework, one in which to formulate the issues surrounding this cross-contextual comparison.

Diagram C: Cross-Contextual Comparison of Interactants' Causal Powers

Causal Context (x)	Active	Passive
Intrasubstantial	x	x
Intersubstantial	x	y

Causal Context (y)	Active	Passive
Intrasubstantial	y	y
Intersubstantial	y	x

This diagram allows us to compare the interactants, x and y, in a number of ways. Notice, first, that comparing x and y *within* an intrasubstantial context yields only a difference in *which interactant is playing both roles*, active and passive. But the roles themselves are unchanged. Similarly, comparing x's active dimension (in an intersubstantial context) with y's active dimension (in the same context) yields (again) only a difference in the identity of the interactant; the active dimension remains unaltered. However, comparing the active dimension of x's self-activity in an *intra*substantial context against the same dimension in an *inter*substantial context does not yield a difference in the identity of the interactant; rather this cross-contextual comparison yields, I suggest, an interesting difference in conceptual content. Notice that this comparison could be duplicated either in reference to y (see Diagram C) or it could be duplicated by comparing the active dimension of *x's* self-activity (in an intrasubstantial context) against the active dimension of *y's* self-activity (in an intersubstantial context). (See Diagram D.)

Diagram D:

Causal Context (x, y)	Active Dimension of Self-Activity
Intrasubstantial	x's
Intersubstantial	y's

A number of issues arise here. First, and most obviously, is the issue over what the difference in conceptual content *is*. How does the active dimension of x's self-activity (in an intrasubstantial context) differ from the active dimension of x's self-activity in an intersubstantial context. A second issue is whether this difference in conceptual content reflects the internal structure of the model of interaction. Is this

difference in conceptual content internally necessitated by some structural feature of the model? If so, what is it? These key issues will be pursued in next section.

Let me now introduce an analytical framework, one in light of which the issues just stated are to be reformulated and pursued. Within this framework, the issue is whether Kant's concept of self-activity (in respect of its active dimension) is cross-contextually univocal or whether it is context-sensitive. Since our concern is with the model of interaction, the issue over whether Kant's use of 'self-activity' is univocal will be pursued within the two contexts required by that model, namely, the intrasubstantial and the intersubstantial. If Kant's use of this term is cross-contextually univocal, then of course its meaning-properties should not be context-sensitive; we should therefore expect the conceptual content of the active dimension of an interactant's self-activity to remain unaltered from one context to the next. If, however, Kant's use of the concept of self-activity *is* context-sensitive (owing, say, to certain demands internal to the model of interaction), then its multiple meanings need to be disambiguated.

Finally, a brief reminder of the larger issue at stake here, namely, whether a substance's self-activity (an essential requirement of substancehood) is, ultimately, other-dependent. If it turns out that Kant's concept of self-activity is not univocal but instead has multiple meanings and if, in addition, under any of its meanings the causal *agency* of one interactant (x) is possible only in relation to the other (y), then (assuming this dependency is reciprocal) each interactant owes *what it is* (= a substance conceptualized on the model of an agent) to the existence of the other

interactant. In that case, the interactants would turn out to be metaphysically interdependent. (See 6.10 for a discussion of that term.) Since the current aim is to understand the substance-concept operative in the model of interaction, it therefore needs to be shown how the semantic differences (supposing there are any) in Kant's use of the concept of self-activity can be motivated by reference to that model. This is the aim of the next several sections.

7.3 Review: Two Key Components of the Model of Interaction

In view of the considerable detail resulting from prior analyses, a brief review of the model's key components seems in order here. Recall that there are two major conditions imposed by the model of interaction: the inherence condition and the external activation requirement. Each of these conditions has already been motivated. (See Diagram below.) The inherence condition says that an accident A inheres in a substance S only if A is the effect of S's internal self-activity. In order for a substance to be able to meet this condition, it must be equipped with internal agency; it must have the power to produce effects in itself. In order for any effects (accidents) to show up in x's intrasubstantial domain they must therefore be ones *x had some hand in producing*.

Diagram:

Condition	Makes Possible	Antidote For
Inherence Condition	Individual Property Ownership[267]	Metaphysical Engulfment
External Activation	Externally Referable Effects	Metaphysical Isolation

As remarked, a substance's capacity to produce effects *in itself* is not, however, sufficient for it to enter into interaction with other substances, as Kant makes clear:

> But no substance of any kind has the power of determining other substances, distinct from itself, by means of that which belongs to it internally (as we have proved). It follows from this that it only has this power [of one substance determining others] in virtue of the connection, by means of which they are linked together in the idea entertained by the Infinite Being. It follows that, whatever determinations and changes are to be found in any of them, they always refer, indeed, to what is external.[268]

If the effects x produces in itself are to count as the effects of its interaction with y, then the exercise of x's causal powers (to produce internal effects) must itself be the effect of something *external* to x. (Again, think of a computer's needing to be plugged in in order to perform its internal operations.)

7.4 Assessing the Model's Functionality: Methodology And Proposal

In addition to the components just mentioned, the active/passive dimensions of self-activity are, as we have seen, basic concepts Kant uses to describe his model of interaction. So far as I know Kant does explicitly introduce other terminology in

[267] The inherence condition says that an accident A inheres in a substance S only if A is the effect of S's internal self-activity. Since this is the condition under which accidents can stand in an inherence relation to something, it is also a condition determining whether something can enter into an inherence relation to an accident. Since that in relation to which an accident inheres is called a 'substance', the inherence condition therefore constitutes a condition under which something can be a substance.

[268] *New Eluc*, 1:145-6, underscoring added.

any of the texts in which the concept of reciprocal interaction is discussed. But because the model of interaction is intended essentially to work in an intersubstantial context, showing that it is unable to do so when the terms used to describe it are assigned a content deriving exclusively from an intrasubstantial context forces us into a dilemma: Either we accept that the model of interaction is internally dysfunctional; or we consider the possibility that the basic terms used to describe it may have more than one meaning; their meanings may in fact be context-sensitive.[269] Since it's premature (not to mention self-defeating) to accept the first horn of the dilemma, we have reason to explore the second.

The aim of the present section is therefore to put the model of interaction into a state of crisis by assuming a univocal conception of self-activity, one under which its active/passive dimensions are to be understood to have *only* the meanings they do in an intrasubstantial context. (See Diagram D and/or E below.)

Diagram D:

Dimension (of Self-Activity)	Context	Model Requirement
1) Active	Intrasubstantial	Externally Activated
2) Active	Intersubstantial	?

Showing (by reductio) that under a single conception of self-activity the model of interaction is unable to function will, in addition, further the aim of isolating the additional structural component the model needs in order to work. Since interactants are substances and since, in addition, substances are (according to Kant) essentially

[269] Actually, there is a third option: we could introduce new terminology ourselves. But I resist this option for reasons given in the next paragraph.

self-active entities, it would therefore appear that the model of interaction must derive its intrinsic structure by reference to the self-activity of interacting substances; more precisely, the model's structure must be conceptualized largely *in terms of* substances' self-activity. So it appears that we cannot so conveniently abandon the active/passive terminology used in conjunction with the concept of self-activity. As remarked, the active/passive dimensions appear to be among the basic conceptual instruments used to describe the model's structure.

It may turn out that we stand to gain more if we assign a sufficient degree of conceptual *indeterminacy* to Kant's concept of self-activity. Were we to do so, there would then be one concept, but *multiple* (cross-contextual) applications of it. Under this proposal, we would therefore avoid introducing new ad hoc terminology of our own into Kant's model of interaction, because we would be able to conceptualize the additional structural feature of the model (the one to be surfaced by the reductio to follow) in a way that does not require us to abandon these basic conceptual instruments Kant uses to describe his model. We could, for instance, view this additional structural component as a distinct *subkind* of self-activity; in that case, we would therefore be required to hypothesize an operative (and probably implicit) concept of self-activity, one of a *generic* sort under which various other concepts of self-activity may be subsumed. Supposing that there is a generic concept of self-activity, we could then explain any cross-contextual semantic differences (see 7.5) that attach to the active/passive dimensions as being due, ultimately, to a difference in

the *type* of self-activity. This is my proposal. My present concern is, however, to present the reductio mentioned above.

7.5 Current Status of the Model of Interaction: Functional Paralysis

Suppose we *were* to model interaction according to a conceptualization of x and y's internal structure where x has only the capacity to produce effects in itself (when externally activated by y) and y has only the capacity to produce effects in itself (when externally activated by x). Under such a model effects would be produced in x or y's respective intrasubstantial domains and these effects would be due to the exercise of their (respective) causal powers. On the assumption that each interactant is endowed *only* with the power to be affected (to be activated), we would have a (rather dysfunctional) model of interaction under which its causal structure contains two patients but *zero* actors.

It may appear that under the present scenario we could at least acknowledge the possibility that effects could show up in x's intrasubstantial domain (independently of y) and concede, in addition, that since these effects aren't referable to something external to the interactant, interaction does not in fact occur. Assuming (1) only, in fact neither of the two conditions above could be met. Under a model of interaction where both interactants' self-activity is to be explicated exclusively in terms of (1) above, neither would be able to produce accidents in itself, because (under the current scenario) neither has the power to activate the other's internal self-activity. Recall the active/passive dimensions of an interactant's self-activity in an

intrasubstantial context. That self-activity is active in that it is the individual interactant performing it, but passive in that its exercise of it requires external activation. Without external activation, the inherence condition would therefore not be met and so substances couldn't produce any accidents in themselves; in which case we would have no reason to hypothesize that they exist *qua substances*. Suppose that a substance (say, x) couldn't, by means of its own self-activity, produce accidents in itself. Why couldn't another interactant (say, y) step in on x's behalf, in order to produce accidents in x? Because, under this scenario, we would have a case of metaphysical engulfment, not interaction. (See 6.4.)

As the possessors of causal powers substance are supposed to be capable of producing effects. Since effects are to be modeled on accidents (or, more precisely, accident inherence), what's necessarily true of accidents and their relation to substances is, by extension, going to be true of effects. What's true of accidents is that they cannot exist in some metaphysical interstice independently of a substance. Accidents do have an ontological status; they have reality (or being), but their existence is contingent on the existence of another entity -- *a substance*. The dependency relation between an accident and its substance is the inherence relation. Let x and y be the only existing substances and A be an accident. Suppose A inheres neither in x nor in y. There is no additional ontological domain -- no metaphysical interstice -- where A could exist yet not inhere in either substance: There can be no metaphysically free-floating accidents. Since effects are conceptualized on the model of accident inherence, any effect produced *by* a substance must therefore be one that

occurs *in some substance or other*. Consequently, it is within a substance's *intra*substantial domain that all effects must be *staged*.

Under its present formulation the model of interaction acknowledges the necessity that each interactant must, minimally, be the *receptacle* for the other's externally produced effects, but this acknowledgement cannot be made without also making some conceptual provision for the interactants' external activation. Leaving the model of interaction in its present state would be analogous to formulating a counterfactual without specifying the subjunctive condition. Indeed it may be worse than that. It may be more like trying to conceptualize an entity's dispositional properties independently of (and without reference to) any conception of their enabling conditions.

We just acknowledged that in order for any effects (accidents) to be produced *in* a substance's intrasubstantial domain (in order for a given substance to *own* these accidents), those effects have be ones produced in and by the activat*ed* substance. Granting that there can be no ghost-agents or exercisers (because no other entity can exercise y's causal powers but y), it doesn't follow that y can self-activate the exercise of its own internal operations. Indeed *initiating* the exercise of its own causal powers is one effect that y *cannot* be responsible for producing. This is corroborated by the analysis in 7.4, where the active/passive dimension of an interactant's self-activity (in an intrasubstantial context) was explicated as follows: it is active in the sense that it is the individual interactant performing the internal operations, passive in that its doing so requires external activation. (See Diagram E.)

Diagram E: Active/Passive Dimensions in Intrasubstantial Context

Interactant	Dimension (of Self-Activity)	How Explicated
x	Active	Individually performed
x	Passive	Externally necessitated

We can motivate this passiveness from within the model of interaction. It was acknowledged that in order for a set of effects to be attributed to the interaction relation, those effects must be creditable to *something external* to the substance in which they are produced. In order to credit the effects y produces in itself (as a consequence of its having exercised its causal powers), we must therefore view the fact of y's having done so as an effect produced by something external to y, namely, x. (And vice versa.) But in order to view a set of effects y has produced (in itself) as having been caused by something external to y, concept-users would have to suppose that it is the *exercise* of y's causal powers (on this occasion) that is the effect of something external to y. The hypothesis according to which it is the exercise of y's causal powers that is due to external influence appears to require, in addition, that y is otherwise *unable* to self-initiate the exercise of its accident-producing self-activity. Why else would it be necessary to hypothesize a cause external to y in order to explain its internal activation?

It would appear that the model of interaction is (under the current scenario) dysfunctional, because neither interactant would be able to self-initiate the exercise of its *own* causal powers (in order to produce effects in itself). And even if they could, the effects an interactant produced intrasubstantially wouldn't count as ones due to interaction unless they could be credited to an external cause. Since (under the

current scenario) neither interactant is able to initiate its internal self-activity and since the only self-activity so far acknowledged is of a sort requiring external activation by the other interactant, the fact that neither interactant is able to self-initiate its self-activity means that neither is able to externally activate the other. Consequently, the model is (under the current scenario) in a state of functional paralysis.

7.5.1 The Root of the Problem

In this brief (but important) section the aim is, first, to isolate precisely what it is (under the current scenario) that puts the model of interaction into crisis and, second, to use this diagnostic as a basis on which to specify what additional components are needed by the model. To that end, reconsider Diagram E:

Diagram E: Active/Passive Dimensions in Intrasubstantial Context

Interactant	Dimension (of Self-Activity)	How Explicated
x	Active	Individually performed
x	Passive	Externally necessitated

Here the active/passive dimensions attach to *one and the same* interactant (x). Indeed, the active passive dimensions are dimensions of a single thing, namely, x's self-activity. It is therefore the exercise of x's self-activity, the individual performance of its internal operations, that this passiveness attaches *to*. And since this passiveness has been explicated in terms of the need for external activation, x's effects-producing self-activity (under the current scenario) would therefore remain chronically *inert* unless otherwise altered (by external activation). Under the current

scenario, the same would, in addition, apply to the other interactant, y. (See Diagram F below.)

Diagram F:

Interactant	Dimension (of Self-Activity)	Externally Necessitated?
x	Active	Yes
y	Active	Yes

It appears that we need to diversify each interactant's internal structure. What the model of interaction appears to be lacking is a conception of the active dimension (of self-activity) under which the interactant's exercise of it does *not* require external activation. (See Diagram G below.) Under this new conception of the active dimension, the exercise of an interactant's self-activity is therefore not externally necessitated; rather its self-activity is internally *originated*. That is, under this new conception of the active dimension (of self-activity), the *cause* of the interactant's performances is *internal* to the performer.

Diagram G: Active Dimensions in Intersubstantial Context

Interactant	Dimension (of Self-Activity)	Externally Necessitated?
x	Active	Yes
y	Active	No

A new structural component of the model of interaction has just been made explicit. It would therefore appear that the active dimension of self-activity has derived *new* conceptual content in an intersubstantial context.

Before saying more about the new meaning just given to the active dimension of self-activity (in an intersubstantial context), I want to follow-up on an earlier issue.

It is this: it appears that, so far as the model's functionality is concerned, the assumption that the active/passive terminology used to describe its internal structure have only one meaning puts the model, as we have seen, in a state of functional paralysis. But if we allow that these terms are context-sensitive, then their meaning (and use) can be suggested by the diverse needs of the model. What the model evidently needs in order to work is a conception of the active dimension (of self-activity) under which the agent's exercise of it does not depend on being externally necessitated. A conception (of the active dimension) that could deliver the goods would therefore have to be one where the *cause* of the interactant's self-activity originated *internally*; hence, that activity would be (in some sense) self-caused.

7.6 Kant On Freedom

In the first critique's Second Analogy Kant says:

> Where there is action, consequently activity and force, there is also substance, and in this alone must the seat of fruitful source of appearances be sought.[270]

In the *Metaphysik L* transcript Kant asserts: "[a]cting and effecting can be assigned only to substances." In these texts, Kant acknowledges the causal efficacy of substances as entities capable of originating action and effects. But notice that neither of these texts acknowledges the internal structure of substances, that is, of active/passive dimensions of self-activity within an individual substance. Nor is there

[270] *CPuR*, B250.

yet any mention of freedom in reference to substances. But the link between a substance and its freedom is the former's independence from external necessitation:

> Nothing is more opposed to freedom in all respects than that the human being has a foreign author.[271]

> A substance that is not externally determined to produce something that previously did not exist acts freely, and this freedom is opposed to internal or external natural necessity. It acts from the free power of choice insofar as the causality of the action lies in its preference and is not passive. The difficulties concern only the first idea of freedom, and it is incomprehensible in the case of the necessary being as well as in the case of contingent beings, but from different grounds, because the former cannot initiate but the latter cannot first initiate. The first degree of independence is the self-activity of a substance in general; the second degree is independence in acting from all external determining causes; the third degree is independence from one's own nature.
>
> Thus the negative [independence] is genuinely incomprehensible; the positive [independence] of motives is comprehensible.[272]

Kant explicitly links his conception of freedom to "the capacity to produce and effect something *originarie*:"

> Freedom is the capacity to produce and effect something *originarie*. But how *causalitas originaria et facultas originarie efficiendi* [original causality and an original capacity for efficient causation] obtain in an *ente derivativo* is not to be comprehended at all.[273]

Kant combines these two characterizations -- of substance as efficient cause and of freedom as the absence of external necessitation -- into a single conception of freedom as self-determination, a conception where the effect (= the agent's performance) is produced by a cause located in, or identical to, the agent itself:

---

[271] *NF*, 15:458.

[272] Ibid., 17:314-5, underscoring added.

[273] Ibid., 17:463.

> Freedom is the capacity to determine oneself to action *a priori*, not through empirical causes.[274]

Here there is an ambiguity worth pausing to consider. When you say (of an agent) that the cause its action is "located in" it, you could be taken to refer either to the passive dimension of self-activity or the active dimension; if the former, then the passive self-activity that results from external activation would count as a free action because it is activity performed in and by the substance itself. However, there is a Kantian conception of freedom under which this passive sort of self-activity would not count as free:

> **Transcendental freedom** (of substance in general) is absolute spontaneity in acting (in distinction from *spontaneitas secundum quid*, where the subject is determined *aliunde* through *causas physice influentes*) [=spontaneity relative to something else, where the subject is still determined, from another quarter, through causes by physical influx]. Practical freedom is the capacity to act from mere reason.
>
> In the case of freedom, the causality is *originaria*, although the cause is an *ens derivatum*. [The causality is original, although the cause is a derivative being.][275]

An action that is transcendentally free appears to be one whose cause is not to be located in the agent and identified with any of its occurent states (say, with an instinct or desire). In more contemporary terms, a transcendentally free action would be one whose cause cannot be identified with *any* item in my motivational set (any desire or impulse, or whatever). In that case the cause of the action would be due to a faculty, one that is not to be conceptualized (on pain of category mistake) as a passively experienced desiderative state in my motivational set (in the way a desire is).

---

[274] Ibid., 18:406.

Certainly, it may take these into consideration (in rational self-reflection) but a transcendentally free action isn't necessitated by any of the agent's occurent states; rather it is one whose execution would *consists in* (or, at any rate, reflect) the exercise of a *wholly independent faculty* (namely, pure practical reason), one the exercise of which cannot be viewed as the *effect* of anything external to the exercis*ing*.

Under this characterization, a transcendentally free action would seem to be one where, for some series of effects *e*, if *e* is caused by a transcendentally free action *A*, then *A* must ('must' of hypothesis) have been the *absolute beginning* of the series *e*; such an action is therefore not to be viewed itself as an *effect* within a larger chain of effects, but is rather to be viewed as "absolutely spontaneous." Elsewhere he elaborates on the difference between such "absolute" spontaneity and spontaneity "under a condition:"

> Spontaneity <*spontaneitas*> is either absolute or without qualification <*absoluta vel simpliciter talis*>, or qualified in some respect <*secundum quid talis*>. -- Spontaneity in some respect <*spontaneitas secundum quid*> is when something acts spontaneously *under a condition*. So, e.g., a body which is shot off moves spontaneously, but in some respect <*secundum quid*>. This spontaneity <*spontaneitas*> is also called automatic spontaneity <*spontaneitas automatica*>, namely when a machine moves itself according to an inner principle, e.g., a watch, a turnspit. But the spontaneity is not without qualification <*simpliciter talis*> because here the inner principle <*principium*> was determined by an external principle <*principium externum*>. The internal principle <*principium internum*> with the watch is the spring, with the turnspit, the weight, but the external principle <*principium externum*> is the artist who determines the internal principle <*principium internum*>. The spontaneity which is without qualification <*spontaneitas simpliciter talis*> is an absolute spontaneity.[276]

---

[275] Ibid., 18:443.

[276] *LM, Metaphysik L,* 28:268.

Kant uses two examples in this text, one about a "body" that is "shot off," the other about a watch. Both are supposed to illustrate spontaneity under a condition (secundum quid). And these examples are meant to be contrasted with an absolute type of spontaneity. (See Diagram below.) Consider a billiard ball's motion when struck; it (the billiard ball) is that which moves; while its motion was externally caused, it continues to move "on its own" (there is no one nudging it, sustaining its motion externally).

Kant's watch example is, I think, more illustrative: a watch is a machine that contains moving parts; these parts move "on their own," when the watch is in working order; they do not require something external to maintain their internal motion. So in this sense they are spontaneous because the motion is that of the parts themselves; they are the things that are moving; moreover, their continuing to do so does not require moment-by-moment intervention from something external to the watch; rather it is capable of sustaining its internal motion (for some duration), which means that the watch *originates*, on its own, *new movements* relative to every preceding instant (post-dating its activation).

Diagram 7.6:

Degrees of Spontaneity	Origination of Action	External Cause?
Absolute	Without Qualification	No
Relative	Under a condition	Yes

The watch is a functional system. The movements taking place within its internal structure can be viewed as effects produced locally (by the system of parts within the watch); and since these parts are constitutive of the whole-watch, the fact

that the movement of one part is caused locally by another part, and that this occurs within a functional system that is *constitutive of* the watch, makes it possible to impute the movements (of any given part) *to* the watch. We can, in other words, conceptualize the watch as if it were the agent of its own self-activity. Once the watch is constructed and set, the movements of its internal operation may be imputed to the 'action' of the watch; the movement of an individual part is an effect that is produced by the watch; however, the watch's self-activity did not originate itself; the watch had to be engineered and created and then set into motion. So while any movement of its parts that takes place after the watch is set is an effect that the watch (if functioning properly) can take credit for causing, the watch cannot take credit for initiating the *series* in which those individual movements occur. The watch's spontaneous self-activity is *relative* (secundum quid), in the sense that this spontaneity occurs within a causal sequence that was activated externally (not self-originated).

It's clear Kant intends to apply the absolute/relative spontaneity distinction to natural organisms:

> Life is the capacity to initiate a state (of oneself or another) from an inner principle. The first is not a complete life, since that whose state is alterable itself always requires something outer as its cause. Bodies may well have an inner *principium* for affecting one another (e.g., inter-connection), also for preserving an externally imparted state, but not for initiating anything on their own. Thus is proven all alteration, all origin of a first beginning, and hence freedom. However the beginning can be comparatively first, namely in accordance with mechanical laws, e.g., when a dog ravages some carrion, movement begins in him which is not caused by the odor in accordance with mechanical laws but through the arousal of desire. In animals, however, this is just as much of an external necessitation as it is in machines; thus they are called *automata spiritualia.* But in human beings the chain of determining

> causes is in every case cut off, and thus one also distinguishes what is immaterial as a *principium* of life from what is material. Among human beings the spirit is free and wills the good; the animal is an automaton; now if only this spirit would always be efficacious on the animal spirit and not get mixed up with the forces of the latter, we would find more proofs of freedom.[277]

In light of this brief analysis, it appears that Kant does have a conception of self-activity that could meet the demands imposed by the model of interaction; it is to be found in the concept of transcendentally free action. A transcendentally free action is one that is not externally necessitated; rather it is self-originated. I submit we could therefore characterize the difference between the active/passive dimensions of self-activity (as required by the model) in terms of the distinction between absolute and relative spontaneity.

7.7 Freedom and the Faculty of Desire

Within the conceptual framework sketched in the preceding section, Kant recognizes that substances may differ in the degree of freedom they are capable of. Comparative judgments about the degree of freedom a substance is capable of are based on considerations pertaining to its "faculty of desire" (or, in more contemporary terminology, its motivational system):

> The faculty for desiring practically or faculty of practical desires <*facultas appetitionum practicarum*> is the power of choice <arbitrium>. The power of choice <*arbitrium; G: Wilkur*> is either sensitive <*sensitivum*>, which represents things to us that are agreeable to the senses, [or] intellectual <*intellectuale*> -- things of which the understanding approves. But the power of choice <*arbitrium*> is better classified into brute <*brutum*> and free

[277] *NF*, 17:313-4, underscoring added.

> <*liberum*>. Brute <*brutum*> is that which is determined or necessitated by stimuli <*stimulus*>, and free <*liberum*> that which [is] determined by motives <*motiva*>; animals have the former, human beings the latter, therefore it is also called human <*humanum*>. A human being can of course be affected by stimuli <*stimulis*>, but not necessitated, for he is independent of the stimuli <*stimulis*>.[278]

The faculty of desire (or power of choice) does not, however, operate in isolation; rather it is a mechanism that operates in conjunction with the substance's representational system, or, in Kant's terminology, "the power of representation." Kant distinguishes different types of soul (say, that of human and nonhuman animals) on the basis of certain differences in their representational systems. For instance, both human and nonhuman 'souls' are according to Kant equipped with the power of mental representation; both types of soul possess outer sense. However, the difference between human and nonhuman animals is that while the former possess inner sense, the latter does not.

> Accordingly, animals will have all representations of the outer senses; they will forgo only those representations which rest on inner sense, on the consciousness of oneself, in short, on the concept of an I. Accordingly they will have no understanding and no reason, for all actions of the understanding and of reason are possible only insofar as one is conscious of oneself. ...
>
> We can attribute to animals an analogue of reason <*analogon rationis*>, which involves connection of representations according to the laws of sensibility, from which the same effects follow as from a connection according to concepts. Animals are accordingly different from human souls not in degree but rather in species; for however much animal souls increase in their sensible faculties of consciousness of their self, inner sense, still cannot be attained thereby. [28:276] ... The consciousness of one's self, the concept of the I, does not occur with such beings that have no inner sense; accordingly no nonrational can think: I am; from this follows the difference that beings that have such a concept of the I possess *personality*.
>
> This is psychological personality, to the extent they can say: I am. It further follows that such beings have *freedom*, and everything can be imputed

[278] *LM, Metaphysik Mrongovius*, 29:896.

> to them; and this is *practical personality,* which has consequences in morality.[279]

The absence of inner sense (in the case of nonhuman organisms) appears to be the key difference Kant uses as the basis for making comparative judgments about the degree of freedom each is capable of; it would therefore appear that the degree of freedom is a function of the type of *soul* a substance has. Nonhuman animals appear to be less free than human beings because, in lacking inner sense, they (unlike us) do not have the metacognitive capacity for self-reflection, a capacity that would otherwise allow them to rationally evaluate and self-regulate their first-order instincts and drives.

> Freedom consists in the capacity to act independently of external determining grounds in accordance with the intellectual power of choice. All sensibility is subordinated to this. Hence we conceive of our power of choice as subject to hastiness or a series of obscure representations, which are the causes of error. The actions that happen in accordance with mere laws of sensibility. In the human being we must distinguish between the animal, i.e., what happens in him in accordance with the laws of sensibility, and the spirit, in accordance with the laws of reason. His power of choice as an animal is really always determined by *stimuli*; yet his will is still free insofar as his reason is capable of altering these determinations of the power of choice.[280]

On my view Kant acknowledges that human *intra*specific differences in freedom are differences *in degree* because all members (of humankind) are capable transcendental freedom; however, *inter*specific comparisons (say, between humans and nonhuman animals) may yield a difference in the *type*, not degree, of freedom. Even supposing this is correct, it doesn't follow, however, that we can't compare self-activity (of

[279] *LM*, 28:277.

different types) in respect of which is freer. Of course we can't hold nonhuman animals morally responsible as we do human beings, but this acknowledgement seems to imply that we do in fact make comparisons between human and nonhuman organisms along the dimension of which is *freer*.

We make interspecific comparisons using the concept of transcendental freedom as an evaluative standard, one in reference to which we can issue judgments concerning the self-activity of (normal) human beings as being of a *freer* type than that of nonhuman animals. In doing so, we reference *ourselves* (the concept of the 'I') in order to establish the normative standard for what is to count as genuine intentional agency:

> The greatest degree of freedom in human being is assessed according to the degree of the outweighing of the hindrances. Our standard for determining the magnitude of freedom thus rests on the degree of the outweighing of the sensible impulses. But there are beings who have no sensible impulses at all; their freedom we cannot assess because we have no standard here, for our standard for assessing freedom is derived from the sensible impulses. The highest freedom of all would thus be where the freedom is utterly independent of all stimuli <*stimulis*>.[281]

The point is not that we have a theoretical cognition of our own transcendental freedom (Kant certainly does not think that); rather the point is that the concept of transcendental freedom (under which we, on aprioristic morally pragmatic grounds, refer our own persons) functions as the fixed point relative to which we make assessments of the degree (or type) of freedom. It is plausible to suppose that Kant

---

[280] *NF*, 17:319-20.

[281] *LM*, 28:256.

would use this same standard in order to evaluate the comparative freedom of an individual substance's self-activity along the two different active/passive dimensions demanded by the model of interaction.

Chapter Eight

THE RECIPROCAL COORDINATION OF CAUSAL POWERS

> On the possibility of the *commercii* of that which is only an object of inner sense with that which is only one of outer sense. In the case of matter, we know only the outer immediately, in the case of the soul only the inner. We do not know the *commercium* among the objects of outer sense originally and *a priori*, and similarly we do not know the *commercium* among the inner powers of the soul. But the first *data* of outer cognition already contain concepts of *commercii*, and likewise those of inner cognition.
>
> —Immanuel Kant, *Notes and Fragments*

8.0 Introduction

In the preceding chapter I argued (by reductio) that if the active/passive dimensions of self-activity are univocal, then the model of interaction is thrown into a state of functional paralysis. On closer inspection, this functional paralysis was seen to be due to the fact that both the active and passive dimensions (of self-activity) applied to one and the same thing, namely to the substance's internal performances. The active dimension of a substance's internal performances consists in its being the individual performer; however, since the passive dimension also attaches to these *same* internal performances, this self-activity must be of a type to require external activation. From this I concluded that, on the assumption that, for two or more interactants, x and y, if each is capable *only* of the active/passive dimensions of self-activity, then under the current restricted meanings of these terms, neither interactant would be able to interact with the other because neither would be able to initiate its own self-activity. Then I used this result to hypothesize that the active/passive

dimensions (of self-activity) must have a somewhat different *meaning* in an *inter*substantial context if the model of interaction is to be rescued from its current state of functional paralysis. I concluded, in addition, that in order for it to work, what the model needs is a conception of self-activity that is *not* externally necessitated but is instead *self-originating.*

But the worry over whether interactants can *kick-start* their own internal performances isn't the only concern here. In addition to the issue over the model's paralysis, there is another major issue, one that is closely related to another requirement imposed by the model of interaction, namely, external referability: in order for interaction to take place, a set of effects (accidents) produced in one interactant (say, y) must be externally referable to another (say, x). We saw how the external activation requirement is motivated by the need for external referability of effects.[282] Suppose y produces a set of effects (accidents) in itself. On the assumption that y's internal performances were not (and cannot) be self-initiated, the fact that y has produced that set of effects can therefore be used to hypothesize a cause that is *external* to y.

[282] The informational dimension of our representational systems (sensibility) is modeled on the passive dimension of self-activity, because to be informed by something external means being passively affected by something. But the picture you find in Kant is that cognitive operations must be stimulated into action. Here, again is the idea that to regard certain internal states (of a cognitive subject) to count as *representational* states, they have to be cognitive effects, ones produced externally to that system; they have to be effects for which it is necessary to hypothesize an external cause for the fact of their occurrence (in this case the running of the cognitive operations). So these cognitive effects have to be *externally referable*; which is to say that they have to be effects the system can produce only when activated to do so by something external to it. This confirms self-activity of the first type in an epistemological context.

And here's where the other issue comes in: how can a set of effects y produces in itself (upon activation) be externally referred (to x) if x has only the one capacity, namely, to produce effects in itself? (See Diagram below.)

Diagram 8.0:

Interactant	Self-Activity	Causal Efficacy	Effects Domain
x	Active/Passive	Able to produce accidents in *itself*	Internal
y	Active/Passive	Able to produce accidents in *itself*	Internal

If interaction is going to be possible it would therefore appear that each interactant has to be imputed with causal powers that are causally efficacious in regards to other interactants; but for that to be the case, these causal powers (or, more precisely, the exercise of them) has to be *directed at* a domain that is *external* to the interactant.

A number of issues arise here. First, on the assumption that a set of externally-directed causal powers are needed in order for the model of interaction to work, the issue arises over whether these causal powers can be identified with the ones already acknowledged by that model. Can, in other words, the causal powers the interactant uses to produce effects (accidents) in itself do *double duty* as the causal powers that produce effects in other interactants, or is it necessary to hypothesize a *second* set of causal powers, ones whose exercise is to be externally directed? Another issue that arises here is whether there is any significant relation between these externally-directed causal powers and the model's requirement for a nonreactive (self-originative) type of self-activity. Is there any important conceptual link to be made here, one that can be seen as internally necessitated by the model?

The basic point that I want to emphasize here, however, is this: The new form of self-activity (whether or not it turns out to be of a *freer* type) is one where *in order to exercise it*, an effects domain that is *external* to the agent must first be hypothesized. And since Kant models effects on accident inherence, the need to hypothesize an external effects domain is equivalent to hypothesizing the existence of another substance (interactant), one that can produce the other's effects (in itself) when externally activated. It would therefore appear that, under this model, other substances (suitably affectable) are the condition under which an individual substance would be *capable* of this other type of (externally-directed) self-activity, because it is the correlative affective capacities of other substances that make it possible for this type of self-activity to have any *externally-directed* causal efficacy.

8.1 Does It Have to Be a *Second* Set of Causal Powers?

Functionally, the model needs two or more interactants that are capable of producing effects (accidents) in themselves (upon activation) and of producing effects in other substances. So the issue is whether both of these two functions can be performed by one conception of self-activity. The model of interaction will not likely work under a conception of substance according to which each is recognized as having only one *all-purpose* form of self-activity.

As remarked, Kant conceptualizes the relation between a substance and its accidents in terms of self-activity; a set of accidents is produced in and by the substance itself and this is what puts that substance into an *ownership relation* to a set

of accidents. In the absence of this dimension of self-activity, the model of interaction would be such that, for two or more substances, x and y, neither would have any properties (in themselves) that the other could take credit for causing; each would be a propertyless (accidentless) entity (supposing this is even possible) in the absence of any internally-directed self-activity. So if a set of accidents A are going to be viewed as the effects produced by an external cause (say, x), the conditions under which A *belongs to y* cannot be conceptually negated.

There seems to be another distinction implicitly operative here. It is this: we can distinguish different types (or dimensions) of self-activity, not by a numerical difference in the self or agent who performs the activity but rather by the kind of causal powers used to produce certain types of effects. You could argue, for instance, that the causal powers needed to produce effects internally would likely be of different kind than those required to produce effects externally. The causal powers used to produce certain intellectual effects (say, to construct blueprints for a skyscraper) are largely cognitive and rely on the exercise the agent's discursive thinking; however, the causal powers used to actionalize that plan in empirical reality would be of a different type, ones relying on various physical materials, mechanical devices, manual labor, etc.

Moreover, a substance's internally-directed self-activity is externally necessitated, whereas the new externally-directed self-activity that we are proposing is self-originating; it would therefore appear that these must be two different types of

self-activity, because the internally-directed self-activity is essentially *reactive*, whereas the externally-directed self-activity is *free* (or, at any rate, fre*er*).

Textually, however, the situation is somewhat complicated. Just because self-activity is internally-directed (aims at producing effects internally) does not mean it *must be* externally necessitated (and therefore essentially reactive), as Kant's division suggests:

> Division. All duties are either external: toward other human beings, or internal: namely not toward other human beings (which thus cannot be demanded or required of other human beings). Both are either passive or active. Passive [*crossed out*: external] duties are those through the power of choice of another. Active: without regarding them as determined through the power of choice of another. Active external duties are free duties, passive ones are coercible duties toward humans. Active internal duty is duty toward oneself. Passive internal duty is duty toward the universal legislator. All our duties regarding God are passive. If I abstract from these, then duties of indebtedness, of merit, and of decency still remain. Moral decency is what is in accord with the dignity of a rational being. Toward God we have none but passive duties, not just moral but also physical (we cannot have an effect on God). Our active obligations toward other human beings are meritorious, toward ourselves, however, owed but not coercible duties. Thus the latter are duties owed toward others.[283]

As this text suggests, there may be internally-directed dimensions of self-activity that are absolutely passive, requiring external activation; there may be, in addition, internally-directed dimensions that are active, ones that are self-originating. Notice also that, under the above division, there may also be externally-directed dimensions of self-activity that are *free* as well. (See Diagram 8.1 below.) And it may be that among the various types (or dimensions) of self-activity, some types are freer than

[283] *NF*, 19:232.

others; for instance, an externally-directed yet self-originating dimension of self-activity may be *as free as* or (maybe) *freer than* other internally-directed dimensions.

Diagram 8.1:

Concept of	Active/Passive	Effects Domain	Free?
1) Self-Activity	Passive	Internal	No
2) Self-Activity	Active	External	Yes

Yet, however many dimensions of self-activity a substance has, if interaction is to be possible, each interactant's self-activity would have to have at least one dimension that is exclusively functionally devoted to producing accidents (effects) in itself *only* upon activation. Since if this same activity were sometimes able to self-initiate, sometimes not, how would we distinguish cases where we are justified in hypothesizing an *external* cause for a set of effects (accidents) from cases where we are not?

Epistemically, we couldn't unless we knew there was some stable norm-governed pattern according to which the self-activity was sometimes self-initiated, other times not. But that is equivalent to acknowledging that there is some determinable *subtype* of self-activity that occurs only under certain specified conditions; and whichever subtype it is that requires external activation, this same subtype of self-activity cannot *also* be of the type that generally doesn't stand under this condition (because requiring external activation is, by definition, essential to that subtype).

Whether or not the internally-directed self-activity and the externally-directed self-activity constitute numerically different *types* of self-activity, it seems fairly clear

that, in order for it to function, the model of interaction would require a second *conception* of (externally-directed and self-originating) self-activity. Since the model of interaction clearly requires the two dimensions or aspects of self-activity that we've been discussing, it appears that an individual substance will be required (under this model) to have an internal structure that combines these various dimensions of coordinated self-activity, some being essentially reactive (to other substances), others being more free.

8.2 Two Types of Self-Activity: A Fly As Physical Substrate, A Fly As Agent

In light of the model's evident demand for a multidimensional conception of substance, I want to make one final observation here. This second conception may require us to correspondingly revamp the referent of 'self' in our use of 'self-activity'. It may be that under this second conception of self-activity, 'self' refers to something significantly different from the referent this term denotes under the other conception; it may be that the referent of 'self' under a conception of self-activity which is internally-directed yet externally necessitated differs *conceptually* from the referent of 'self' under a conception of self-activity which is externally-directed yet self-originating. It may be that (of the two) the latter is the closer approximate to genuine *agency*. Under this second type of self-activity, the referent of 'self' would therefore be viewed as more closely approximating the model of an *agent*.

To make this more intuitive, consider the following illustration. Neither a diamond nor a piece of quartz can be digested by a frog, whereas a fly can. Being

vulnerable to a frog's digestive processes isn't, however, distinctive of a fly, of what a fly *is*. The fly's reactive agency (of being frog-digestible) is a causal disposition it shares with many other insects of very different sorts. In order to determine, however, what is distinctive *of a fly*, in order to conceptually explicate what a fly *is*, some reference to what it is able to do in a domain that is *external* (to the region of space enclosed by its body) is required. Indeed the fly's native vulnerability to a frog's digestive capacities may be a *consequence* of its structural fragility and this, in turn, may be a condition under which the fly is capable of whizzing around in its environment, a clear advantage in fleeing larger predators. But the whizzing around, leading a fly's life, is something the fly is *doing* in a way that is characteristic of it; whereas being digested by a frog, supposing there is some (reactive) self-activity operative in the fly's passively undergoing digestion by the frog, isn't an *action* in quite the same sense.

Undergoing digestion (by the frog) may require coordinated activity on the part of the fly, and this activity may be described in terms of certain (norm-governed) physiological processes, ones whose functioning is necessary to effect the fly's internal decomposition. But even supposing that these processes are being performed by the relevant physiological entities in the fly's body and that, in addition, they exhibit a teleological character (to effect the fly's decomposition); self-activity of this sort is *subpersonal* (or, since a fly isn't a person, sub-intentional) *relative to* the fly considered as a substance in its own right. Consequently the referent of 'self' in the fly's physiological self-activity may be goal-directed, but it isn't a singular entity, like

the whole-fly is; rather 'self' refers to the vast multitude of very unflylike entities that jointly constitute the physical substrate of the fly. By contrast, the fly's whizzing around in the swamp, leading a fly's life, represents a different type of self-activity, one where the referent of 'self' is here conceptualized as a *singular entity* on the model of an intentional agent.

8.3 Which is the Freer Type of Self-Activity?

As already suggested, one issue that arises in our analysis of the model of interaction is whether the internally/externally directed dimensions of self-activity differ in the degree of freedom. Another related textual issue is whether there is any Kant-internal support for the idea that either type of self-activity is *freer* than the other type? Is there any textual evidence showing that Kant acknowledges a difference in degree of freedom in reference to the model of interaction? (I consider this textual question below.) Even supposing that there *isn't* much in the way of explicit textual evidence, the basis for a comparative assessment of this kind may still be plausibly derived from the internal conceptual demands of the model of interaction, for which considerable textual support has already been given.

In the texts I've examined, Kant does not explicitly distinguish the externally-activated and self-originating dimension of self-activity as being of a freer sort than the internally-directed and externally-activated dimension. There is no explicit and parallel articulation in Kant in these terms. But neither does Kant explicitly distinguish these two dimensions of self-activity (not, at any rate, to the degree they

have been made explicit in the model of interaction as it has so far been presented). I submit, however, that we can plausibly extrapolate on the issue here by briefly re-introducing the conceptual framework (of 5.6) for which there is more explicit Kant-internal textual support, one that Kant uses to make comparative judgments about a substance's freedom. We may then consider the model of interaction in light of this conceptual framework and make some reasonably plausible assessment of which of the two dimensions of self-activity (the internally or the externally-directed) is the closer approximate to free agency.

To that end, consider a parallel discussion (on suffering and interaction) in the Metaphysik L transcript where Kant says:

> "A faculty that is sufficient for all sorts of things is an aptitude <*habitus*>; *G: Fertigkeit*>. With this one has to distinguish: *effecting, acting, and doing*. *Acting* (<agere; G: handeln>) can contain everything possible, relative to the consequence <*rationatum*> of the action. Action <*actio*> is when a real consequence arises out of it. Doing (<*facere; G: tun*>) means acting *from freedom*; a deed <*factum*> is always attributed only to an acting substance.[284]

Here Kant says that "[d]oing means acting *from freedom*; a deed ... is always attributed to an acting substance." Does Kant mean to imply here that actions don't count as *deeds* and consequently aren't attributable to substances? Or, if that conclusion isn't warranted (in light of the watch example above), then supposing we could still acknowledge the causal efficacy of any self-activity classified as 'acting' (a plausible assumption), then maybe we can take Kant's point to be that this type of self-activity is nonetheless a *degenerate* form of something else. In that case, the

---

[284] Metaphysik *L*, *LM*, 28:565-56.

question is 'A degenerate form *of what*?'

Since a contrast is apparently being made here between three related categories -- effecting, acting, and free doings -- we can explicate this contrast in light of our brief survey of Kant's conceptions of freedom. I submit that we can plausibly explicate the difference in terms of the distinction between absolute and relative spontaneity. We can view free doings as a class of self-activity that is *freer than* acting (or 'mere actio'), while acknowledging that both types of self-activity are causally efficacious. On this hypothesis, transcendentally free self-activity would be the normative standard (the chevron of freedom, as it were) in reference to which all other forms (or dimensions) of self-activity are to be evaluated as more or less approximative. Acting would therefore be a degenerate case of self-activity *in comparison* to 'free doings' because the latter would be viewed as the closer approximate to full-blown intentional agency, the paradigm of which is to be found in Kant's concept of transcendental freedom, a type of absolutely spontaneous (self-originated) self-activity.

In light of this analysis, we can interpret a Kantian text in which the structural core of the model of interaction is explicitly described:

> The relation of a substance to the *accidens* is mere *actio*. Vis. That of substances to one another can be either *actio* or *passio*; if it is *mutua*, then it is *commercio*. [Translator's paraphrase: "In other words, if each substance is both active and passive with regard to the other, then there is interaction.[285]

[285] *NF*: 18:144.

Notice Kant's use of 'mere actio' here. In terms of the analysis just given (of the text cited above), it seems reasonable to consider that Kant's use of 'mere actio' may be intended to suggest a degenerate form of self-activity. Operating on this assumption the question is, then, how, in what terms, are we to understand the degeneracy of this self-activity. To that end, the first task is to clarify the meaning of 'mere actio'.

It seems plausible to think that a cross-contextual comparison is being made, one where the internally-directed self-activity is regarded as *missing something* that its externally-directed self-activity possesses. What could that be? On the assumption that the comparison is cross-contextual, the term 'mere actio' would be intended as a description of the substance's causal efficacy in producing accidents *in itself*. But since (in the context of interaction) this internally-directed self-activity is externally necessitated, it would make sense to describe *it* as 'mere actio' in comparison to another (freer) category of self-activity (that of free doings, for example). In that case, the 'mere' in 'mere actio' would be referring to the comparative degeneracy of the internally-directed self-activity because, while it is externally necessitated, the externally-directed self-activity (which is self-originating) is not. In light of this, we can plausibly speculate that (of the two) the externally-directed self-activity would more closely approximate free doings.

8.4 Interactions and Transcendental Agency

A model of interdependent agency includes (but is not limited to) a model of interdependent *causal efficacy*. A model of the latter sort is one under which the

causal efficacy of an individual's self-activity depends on the existence of other substances (and their having correlative affective capacities). (I discuss this more in 6.5.) A model of the former sort is one under which the very *exercise* of an individual's causal powers is dependent on its causal relations with other substances; indeed, as we have seen, interaction itself has been (partly) modeled in just such terms. Under the model of interaction, only the internally-directed externally activated self-activity (what Kant calls suffering) is dependent in this way. So does that mean that only this internally-directed type of self-activity is interdependent on other substances? Does that mean that only this internally-directed (externally necessitated) type of activity counts as 'interdependent agency'? To think so would be, I suggest, a mistake.

Let me explain. It is true that, under my suggestion, we have conceptualized the externally-directed type of self-activity as being of a freer sort than the internally-directed. This is due to the fact that externally-directed self-activity has been modeled after transcendentally free action; in that case, it couldn't be up to other substances whether an individual substance exercised those causal powers that it does when it performs a transcendentally free action, right? A transcendentally free action is one, by definition, where the *exercise* of the individual's causal powers is absolutely spontaneous; the individual's exercise of its own causal powers is not the effect of something that is *external* to exerciser. As regards transcendentally free action, there is a *causal loop* between exercis*er* and exercis*ing*; yes, the exerciser is the cause of the exercising, but the exercising is the always the effect of the self-

exercising exerciser. In light of this, it seems to follow that every individual substance could, as it were, transcendentally kick-start the exercise of its own externally-directed causal powers wholly independently of other substances. And since the interactant's externally-directed self-activity is modeled on transcendentally free activity (in order to rescue the model from functional paralysis), it seems to follow (rather ironically) that all interactants are free of any dependency on their fellows in regards to their externally-directed self-activity. And this result would (rather seriously) embarrass my characterization of the interactants as interdependent.

But transcendental agency (absolute spontaneity) doesn't operate in a vacuum; the exercise of it (transcendental agency) may not be subject to external necessitation, but if it is to have *intra*phenomenal causal efficacy (as Kant thinks it must be for moral reasons), then there is going to have to be some link between an individual's transcendental agency and the causal efficacy of its externally-directed self-activity. If the effectiveness (or efficacy) of an individual's exercise of transcendental agency is to be appraised *exclusively* in terms of the effects it produces subjectively, namely, its having been (subjectively) exercised by the agent himself, if this is the *only effect* to be credited to transcendental agency, then we have not succeeded in rescuing the model of interaction from functional paralysis; since if transcendental agency can only be subjectively effective, then a set of effects produced in one interactant could not be credited to the causal efficacy of another external to it . (See 5.3 for a discussion on this requirement.) However free the individual's exercise of its transcendental agency may be, its effects would, as it were,

bounce off the inner walls of its intrasubstantial domain; they would be confined to this domain and consequently not extend to another substance. Much of the motivation, however, for conceptualizing a substance's self-activity under Kant's notion of transcendental agency is to make it possible for there to be a dimension of it that is self-originating (not in need of external necessitation) *so that* one interactant can be causally efficacious in relation to another.

If the notion of a transcendentally free action is going to do any work in the model of interaction, it appears that there must be some link between the exercise of *it* and the exercise of externally-directed causal powers; since the causal efficacy of the latter does depend on the existence of other substances, it would appear that, while the subjective exercise of transcendental agency may not be externally dependent on other substances, its causal efficacy in the phenomenal world *is*.

8.5 Return to the Core of the Model: Dual Orientation of Causal Efficacy

So far our analysis of the model of interaction has suggested the need for two types of self-activity. (See Diagram below.) We have already discussed at length the conception of an internally-directed yet externally activated type of self-activity. However if the model is to work a second type of self-activity must be introduced, one that is intimately linked to the interactant's causal efficacy in relation to other substances. As remarked, the model requires another conception of self-activity, one under which a substance may produce effects in a domain that is external to it. To

that end, the model of interaction would appear to require a type of self-activity that is both nonreactive and externally-directed.

Diagram 8.5:

Interactants	Orientation of Causal Efficacy	Self-Activity
x	Externally-directed	Self-Originating
y	Internally-directed	Externally Necessitated

My present aim is to bring these two structural features of the model of interaction to bear on what I've suggested is the *structural core* of the model:

> *Core Structural Component*: For some accident A inhering in y, x cannot contain the ground of A's inherence in y if *y* doesn't "at the same time contain the ground of the substantial power and of the existence of the other [x]."

It is within this structural core that the relation between the two types (or dimensions) of self-activity must be conceptually explicated. It would appear that x's externally-directed and self-originating causal powers may contain the ground of some accident (A) inhering in y only on the condition that y possesses some internally-directed and externally activated causal powers. It's seems clear that in order for x to have *any* causal efficacy (concerning y), y must have a corresponding set of internally-directed causal powers, ones that can be externally activated by x; but (again) in order for this to be possible, x must be capable of a type of self-activity that is externally-directed. (The same would also be true of y.) In that case, it would appear that the condition under which x's causal powers can be externally efficacious is that (1) there exists (in addition to x) some other substance, y, and (2) y possesses a *correlative set of affective capacities*, one that is coordinated to (and harmonious with) x's externally-directed causal powers.

It should be clear enough why, when represented under the model of interaction (as it has so far been constructed), two or more entities, x and y, would have to *coexist*. As remarked, substances are conceptualized essentially as self-active entities; each interactant can possess its externally-directed self-activity only on the condition of the other's internally-directed and externally activated causal powers; moreover, it would appear that the internally-directed self-activity, owing to its need to be externally activated, would not be possible *either* unless another substance existed in order to activate it. And since a substance's ownership of accidents is owing to its capacity to produce effects *in itself* and, moreover, since (in Kant's mind) it seems incoherent to hypothesize an entirely accidentless (or propertyless) substance (see 4.4), it would appear that being a substance (at all) depends on its having (at least some) accidents. In which case it would appear that neither type of self-activity (the internally nor the externally-directed) may be exercised independently of the other interactant.[286]

[286] Here I do not want argue the issue over whether Kant, like Descartes, acknowledges *some* (possibly internally-directed) dimension of purely mental self-activity whose causal efficacy (say, to produce thoughts) is *absolutely* independent of other substances. I do not think Kant does. Suffice to say that the first critique's Refutation of Idealism, which targets "problematic idealism" (Kant's term for Cartesian dualism), argues that space (or, at any rate, spatially extended matter, conceptualized as "the permanent") is a necessary condition of having a first-personally and temporally-structured intentional awareness; outer sense is the prior condition of inner sense. But it's not merely the representation of space (as an a priori *subject matter*) but the representation of *my cognitive embodiment in space*, as the domain where cognitive reference is to be staged, that provides the ground for my system's mental simulation of an internal (= subjective) exclusively diachronic order of relations (= time). For Kant the system's cognitive embodiment means that its cognition is embedded in a semantic network that is ultimately parasitic on phenomenal reality. If the system's intentional states are object-referring, then they are states of empirical cognition. Kant does appear to acknowledge non-referring cognitive states, however. Cognitive states that are non-referring (or, at any rate, do not refer to an object) are cognitions of the *a priori* formal architecture and/or the a priori subpersonal processes governing object-referring (= empirical) cognition.

The model of interaction is one under which the *causal efficacy* of an individual's self-activity presupposes some reference to, or hypothesis of, an environment, one that is essentially constituted by the individual's causal relations with other substances. It is therefore in virtue of a causal structure (explicated under the model of interaction) that an individual substance may possess an externally-directed type of causal efficacy. As remarked, self-activity of this type would likely be as free as but probably *freer than* the internally-directed and externally activated type. Because (under the model) the second type must be self-originating, it should more closely approximate intentional agency; in that case, this second type of self-activity could plausibly be viewed to represent activity that is more *expressive of* the substance (of what it is) than that of an essentially more reactive sort. Consequently, we could plausibly hypothesize that the set of causal powers used by this second (externally-directed) type of self-activity would be as (but probably more) *essential to* that substance (to what it is).[287] And since the exercise of either dimension of its self-activity appears to require reference to the other interactant, it appears that each requires the other's *existence* in order to be a self-active entity; which is to say (assuming SAR[288]) that each is the condition under which the other may so much as *be* a substance.[289]

---

[287] I base this inference on the fact that Kant defines substancehood in terms of self-activity. Activity that is more expressive of self, which is more constitutive of the agent's "free doings," is to be viewed as more closely approximating genuine agency.

[288] SAR = self-activity requirement imposed on substancehood. See 6.3 and 7.1 for details.

Let me make this somewhat more intuitive by returning to the fly illustration (see 6.3). Determining what sorts of causal powers the fly has requires cognitive reference to other substances and to the sorts of affective capacities they have been endowed with; conversely, empirically determining the ways in which one substance is affected by another requires some sort of agreement between their individual kind-defining causal systems. And how, it may be asked, would synthetic conceptual explication even be *possible* if it weren't the case that the fly (and the other substances present to it) had causal systems that were entirely out of sync? The fact that the fly's causal powers can (and must) be conceptually explicated by reference to something external to it -- the fact that there is actually a semantic route for *saying* what a fly is able to do and that this route *means* making reference to other entities that exist beyond the region of space enclosed within the fly's body -- this fact reasonably supports the hypothesis of a sort of empirical semantic network, one that underlies fly-specific semantics. Such a network would explain how it is possible to explicate *what a fly is* in terms of what it can do to/on/in/with other entities (and, reciprocally, what can be done to/on/in/with *it*.

---

[289] Propositions 12 and 13 (of *New Elucidations*) strongly suggests that Kant's pre-Critical substance model is one under which substances are relationally constituted. Kant's argument in the final section of *New Elucidation* claims that the degree of metaphysical involvement any two substances must have is *pretty intimate* -- so intimate that involvement in a relational structure is a necessary condition of a individual substance's *demoralized intentional awareness*. Support for this characterization of the required degree of metaphysical intersubstantial intimacy can be found by considering the thrust of Kant's argument in the final sections of *New Elucidation*, one that bears a striking similarity to the argument given later in the first critique's Third Analogy. Kant claims that an individual substance (conceived on the model of a Leibnizian monad, as a subject of intentional awareness) could not exist as an independent stand-alone substance and *also* experience alteration or change; in that case, such a substance could not experience any change or alteration in its internal states and therefore could not have a subjective experience of time.

8.6 Teleologically-Explicated Interactive Structures: An Intuitive Presentation

As we have already seen, Kant conceptualizes substances on the model of agents (as self-active entities). The aim now is to determine whether there is a conceptual link between the need for an external effects-domain and a certain type of self-activity. Is there a type of self-activity the exercise of which requires hypothesizing a domain of effects that is *external* to the substance that exercised it (answer seems to be yes)? Under what conceptualization would an interactant be *required* to produce effects in a domain that was external to it? This is equivalent to asking under what conceptualization of self-activity would it be necessary to hypothesize a second interactant in order to make the first's causal efficacy possible? What would we have to hypothesize about substances in order to make the model of interaction capable of accommodating the demand that each interactant have a domain of effects that is external to it?

Think of an automobile engine. An engine can produce certain effects -- vehicular locomotion -- but these effects are not produced in the engine as such. True, motion among the parts does occur (cylinders, crankshafts, etc), but these motions are the mechanical means to the engine's producing the effects it was engineered to produce, namely, vehicular motion. For that to be possible, however, the engine has to be embedded in a larger entity (a car); moreover, the effects the engine is to produce (when encased in the car) must be explicated in a domain of existence that is external to both the engine (and the car). (Motion in the car is not the effect an engine is designed to produce). Embedded in the car, the engine's causal

powers must be ones explicated in terms of what effects it (the engine) can produce in a domain of existence that is external to *it* (the car), namely, in terms of its intended function to provide forward drive in ambient space, in the larger environment. (This requires, in addition, the full magazine of natural laws derived from Newtonian physics: a terrestrial surface, gravitational attraction, inertia, surface traction, etc.) Producing motion is the distinctive causal power an engine (properly car-encased), and this effect is one it can produce only on the presupposition of a domain of existence that is *external* to it, one in which it can affect other things (drive shaft, wheels, etc.)

Now consider a natural organism, say, a monkey. We would, first and foremost, like to know what counts as the monkey's environment. Monkey semantics require that anything conceptualized as a monkey produce monkeylike effects, ones that are staged and played out in a domain of existence that is recognizable as the environment of a monkey. Lots of events occur within a monkey's body, many of which can be captured in nomic statements of organic biology specific to monkeys, others shared by human physiology; however, the effects produced in this domain aren't the ones we should refer to in order to explicate the causal powers of a monkey; monkey guts are very unmonkeylike. The entities performing these organic processes are not themselves monkeys. The physical environment *internal* to a monkey, the one enclosed within its "epithelial envelope," isn't the appropriate domain to think of as the one where the monkey's life is to be staged and played out.

If the space that is enclosed inside a monkey's body isn't an environment appropriate to a monkey, the only alternative is to conceptualize its environment by reference to the *ambient space*, the region of space outside to the monkey's body. It is in this ambient space that a monkey lives its life as a monkey (not as aggregate of physiological processes). As remarked, however, effects are to be modeled on accident inherence and accidents are produced *in* and *by* some substance or other. Consequently, it is not ambient space *as such* but other substances coexisting in space, which jointly constitute the monkey's environment, that appears to constitute the appropriate domain in which it can exercise its causal powers.

Let's return to the engine example. The space enclosed by the engine is already filled with a multitude of parts (ones not at all like the engine), ones that are interrelated so as to make the engine's distinctive causal powers possible. So the space enclosed by the engine constitutes an internal environment (its intrasubstantial domain) that is already devoted to meeting the possibility-conditions of the engine's causal powers. (See Diagram below.) And because the space enclosed within the engine contains the conditions under which the engine (as engine) is possible, it cannot also be the environment in which engine-attributable effects are to be staged and played out. Analogously, a monkey is a material composite. A monkey's body is composed of a multitude of entities, ones whose causal powers are interrelated so as to make the whole-monkey's causal powers possible. So since the space enclosed in a monkey's body is "filled" with a plurality of entities nomically combined and interrelated so as to make possible a *monkey* (as a monkey, not an aggregate of

monkey guts), this domain does not seem to be the appropriate place for a monkey to exercise its distinctive causal agency.[290]

The causal agency of a monkey, the causal powers that can be conceptualized as that which a material composite, as a monkey, would be capable of exercising must be explicated from its spatial boundaries *on out* -- or, in more technical terminology, from its "epithelial envelope" on out -- by what effects it produce in its environment. Maybe more can be made of the point that the external environment begins from the region of space extended from the surface of your body *on out*. Things done with the body, bodily behaviors, will be *the minimal unit of intentional action* (insofar as it is bodily). The body is the instrument (and the condition of) an agent's causal efficacy; therefore, performances made *with* the body are *constitutive of* an embodied agent's externally-directed self-activity. This further suggests that the domain in which embodied intentional agency is to be staged and enacted is one that is external to the bounded region of space enclosed within the embodied substance-agent.

When you conceptualize a material composite, such as a monkey, on the model of an agent, you subsume the entire composite entity under that concept; in

[290] The goal-directedness of the whole-monkey which would involve the use of its body as an instrument of its causal efficacy in service to some goal, would presumably require that the goal be one directed at a domain external to the region of space enclosed by its body. Does that follow? No. We can imagine a motivationally dysfunctional monkey, one that was exclusively concerned with the surface of its body, or with its interior, one that didn't acknowledge the world that extended from the surface of its body on out. But this (rather autistic) monkey-type would not be what we call a *normal* monkey (except in appearance). (In fact there are studies that show if infant monkeys do not receive a certain amount of attention and acknowledgment before a certain age, they do not develop an interest in others of their kind; an appear take little interest in the environment external to them.) This implies, I think, that there is a *normative* conception of a monkey's ends (of a monkey's goal-directedness), one that is operative in our semantics concerning monkey kind.

which case it is the monkey as a whole-organism that is subsumed; consequently, the causal powers *of a monkey* must be conceptually explicated in reference to a domain that it makes sense to view as the environment of a monkey (monkey's don't swing on neural synapses!), one where effects can be attributed to an physical composite of this sort. And since (in Kant's mind, anyway) the building blocks or basic units of an environment are substances, this means that a monkey's causal agency has to be explicated by reference to *other substances* and their correlative affective capacities. What we think something *is* depends a lot on what we think it can *do*. What a monkey can do depends on to *whom* it can do it. The monkey's causal agency depends on the existence of other entities that can be causally affected by a monkey. Thus a monkey's *agenthood* is (semantically) interdependent on the correlative affective capacities of other entities; furthermore, since an entity counts as a substance iff it is an agent, a monkey's very substancehood appears to depend on the possibility of interaction with other substances.

8.6.1 The Hierarchic Coordination of Causal Powers

It would appear that there are a number of conditions required for goal-enactment, a major one being that the interactant's causal powers are *coordinated*.[291] First, a substance's causal powers have to be such that its efficacy is *geared to* the external environment. As remarked, this seems to mean that the externally-directed causal efficacy (say, of a monkey) presupposes the existence of other entities that

[291] Kant sometimes uses 'coordinated', other times he describes causal powers as 'harmonized'.

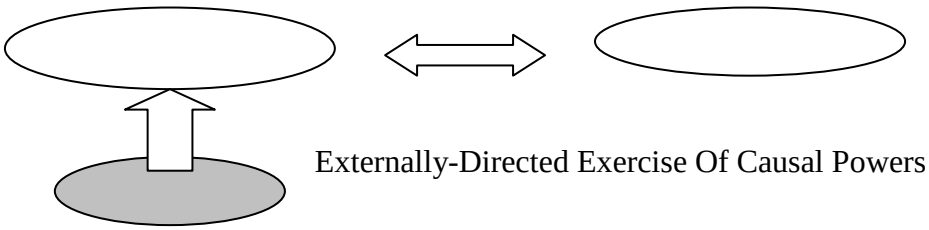
have correlative affective capacities (see section above). Second, since the exercise of its causal powers appears to be goal-directed, the monkey's causal powers have to be geared to its specific *goal-directedness*. (A substance that was directed to attain a goal for which it did not have the requisite causal efficacy would presumably be deemed dysfunctional.) As remarked, interaction seems to imply the necessity for coordinated goal-directednesses between the monkey and other members of its environment, ones that exist on the appropriate semantic level of description as the whole-monkey.

In order for the monkey's causal powers to be geared to its level-appropriate environment, a monkey must have a physical substrate that is geared to its particular goal-directedness. The set of physical parts that constitute a monkey are supposed to make the monkey possible, where here 'making *it* possible' *means* 'making the causal powers *characteristic of a monkey* possible'. Consequently, the causal substrate of a monkey (one consisting of a multitude of very unmonkeylike entities, each of which has distinctive causal powers of its own) must be coordinated so as to make the causal powers of a monkey possible. Not only do the various causal powers of each of the monkey parts have to be coordinated vis-à-vis *each other* (so as to make a whole-monkey possible); they, in addition, must be coordinated for the sake of the monkey's own goal-directedness.

What we think something is depends a lot on what we think it can do. And a monkey's causal powers, as suggested, cannot be explicated by reference to the region of space enclosed within its body; instead, what it can do (qua monkey) must

be explicated by reference to a domain that exists beyond that boundary (in relation to other entities). A monkey's physical substrate must therefore be coordinated with the environment which is external to the whole-monkey; otherwise, the type of causal powers it would make possible would not be those characteristic of a monkey; which is to say that this causal coordination (of physical substrate to superstrate) must therefore be *conceptualized in reference to* the environment conceived for the whole-monkey. (See Diagram below.)

Diagram 8.6: Axis of Interactive Structure



This suggests that there is *both* a horizontal and a vertical dimension to the coordination required by interactive structures. The monkey's (externally-directed) causal powers must be geared to its environment; and the monkey's physical substrate must, in turn, be geared to making the monkey's goal-directedness *actionable*, so that the goals it is supposed to pursue in its environment are ones for which it possesses the relevant causal efficacy. And this, according to Kant, suggests "objective material purposiveness." It suggests a teleological link between the parts of a monkey (and their causal powers) and the larger structured whole of which the

whole-monkey is itself a part. It's as if the vast number of (very unmonkeylike) entities, ones which make a monkey's causal powers (its physical substrate) possible, were *aiming at* composing the sort of entity that could function in the larger (environmental) whole of which the monkey is itself a part. And in view of the fact that the monkey is a *part of* a larger (environmental) whole, it's as if the parts of a monkey were aiming ultimately at composing this larger (environmental) whole and that the composition of a monkey was the proximal *means*[292] to realizing this (higher, more distal) end.

Interestingly, the resulting teleologically-enhanced conceptualization of interactive causal structure is strikingly similar to how Kant explicates the internal structure of natural organisms in the third critique. In the third critique (§66), Kant formulates his principle of natural organization in terms explicitly teleological terms, namely, as a system of reciprocal means/end relationships:

> **An organized product of nature is that in which everything is an end and reciprocally a means as well.**[293]

When conceptualized on the model of intentional agents, substances would *have* ends—aims, interests, goals—and therefore could be viewed as interacting with other substances in a way that was guided by their particular species-defining goal-directedness. A substance would treat other substances as a means to the realization

[292] Discussions of practical reasoning usually distinguish between two broad types of means, instrumental and constitutive. In the present case, the aim of composing a whole-monkey appears to be a constitutive means in view of the fact that it is a component part of a larger (environmental) whole.

[293] *CPJ*, §66.

of its own individual ends; reciprocally, these other substances would treat *it* as means to the realization of their own ends.

> In such a product of nature each part is conceived as if it exists only through all the others, thus as if existing for the sake of the others and on account of the whole, i.e., as an instrument (organ), which is, however, not sufficient (for it could also be an instrument of art, and thus represented as possible at all only as an end); rather it must be thought of as an organ that produces the other parts (consequently each produces the others reciprocally), which cannot be the case in any instrument of art, but only of nature, which provides all the matter for instruments (even those of art): only then and on that account can such a product, as an organized and self-organizing being, be called a natural end.[294]

The preceding discussion suggests that the model of interaction is one where a substance's involvement in an interactive structure amounts its involvement in a type of *teleological structure*, specifically, a matrix of means/end relations in which a plurality of distinct (and embodied) substances are united by their coordinated (and goal-directed) causal powers. It seems that the concept we have to use in order to make use of this additional dimension (of goal-directedness) is that of an *end*.[295]

It would appear therefore that the exercise of a substance's causal powers would have to be reciprocally coordinated; otherwise its causal powers would be causally *out of sync* with the existing affective capacities of other substances. Given that a plurality of finite substances (say, x and y) could not have pre-arranged the agreement of their own causal powers (a premise Kant would accept), the *datum* of

---

[294] *CPJ*, §65, 5:374.

[295] In *Concerning the* Use of *Teleological Principles in Philosophy* (1788), Kant writes: "**Ends** have a direct relation to **reason**, whether this is that of another or our own. But if we are to place them in the reason of another, then we must at least base this on our own as an analogue: because otherwise this cannot be represented at all" (8:182). This quotation appears in the *CPJ* , endnote 20, p. 391).

their interaction can only be made intelligible to reason if it supposes that, in view of their mutual dependency, there must ('must' of hypothesis) be some whole-object that the interactants (x, y) are supposed to compose; in which case, these interactants must ('must' of a hypothetical practical imperative) be coordinated for the sake of composing this implicit whole-object. Under this hypothesis, x and y are viewed reciprocally as the *means* to each other's causal efficacy, and this reciprocal coordination is to be viewed, in turn, as the means to composing this whole-object. But if that's so, then the *rational* explanation of x and y's mutual coordination must lie in the fact that these interactants were *supposed to* compose this whole-object, which would imply that the latter prescribes itself as the *target* (or scopus) of composition.[296]

In Chapters 2, 4 and 5, we have seen how reciprocal interaction is linked

---

[296] This suggests, I think, that interactive structure *supervenes on* teleological structure; in other words, from the standpoint of *reason* (not the understanding), teleological structure is explanatorily prior to (thus functions as the causal substrate for) efficient causal structures. I submit that the model of interaction, conceptually encoded in the a priori category of community, is the basic bare-bones structure, the mere scaffolding of a goal-directed system; it represents a reciprocal structure made up of efficient causal relations; but the feature of reciprocal causality cannot be explained in terms of efficient causality. The basic idea (which I acknowledge is speculative) is that purposiveness is (or, at any rate, provides) the *schema* under which the category of community (= the concept of reciprocal interaction) can be applied to empirical-phenomenal reality. In other words, the model of interaction doesn't explain how it derives the defining feature of its own internal structure (reciprocal causality); it represents only a mechanical substrate. Because, as a categorial concept, reciprocal interaction represents the *understanding's* conceptualization of interactive structures (namely, as a two-way structure of efficient causality), it does not include the concept of an end, the concept that is supposed to explain causal reciprocity (the coordination of causal powers). Rational systematicity, which derives from the concept of teleology, is the business of reason (not the understanding). Therefore, the teleological dimension of interactive structure cannot be included as part of the conceptual content of the understanding's conceptualization of interactive structure. This could help to explain why, in the third critique (§80), Kant thought it necessary to postulate the "subordination" of mechanistic explanations to teleological ones in order to explain the global systematicity in virtue of which nature may be conceptualized as one (thoroughly organized) world-whole.

explanatorily to Kant's physicoteleology, that is, to an intentional explanatory framework (see also 10.6); moreover, in Chapter 6 we saw how Kant's *model* of reciprocal interaction is motivated by his mereocosmology (his alternative to metaphysical engulfment and isolation). As we shall see (in the remaining chapters), the philosophical significance of natural organisms (in the third critique, anyway) seems to be that they (as whole-objects) exhibit an interesting and, as it turns out, cognitively serviceable ambiguity. As wholes, each organism is both a one and a many -- a singular entity and a set of parts. As singular entities, natural organisms are to be conceptualized on the model of agents (and, for this reason, prescribe themselves as targets of composition); as a set of parts, organisms model interactive structure in their own composition (in propria persona). These two conceptualizations of a whole-object are *explanatorily united* within Kant's use of the concept of a "natural end" (and within the larger framework of his physicoteleology). In the next two chapters, the aim is to textually substantiate these claims. In the final chapter, the aim is to re-activate and apply the mereocosmic interpretative framework (presented in chapter 2) to the Kant-internal data marshaled from the various chapters.

Chapter Nine

CONCEPTUALIZING NATURAL ENDS

9.1 Introduction

In the second half of the third critique, where Kant provides an analysis of the "teleological judgment of reflection," an interest in natural organization predominates. In *CPJ* §64, Kant defines (or, at any rate, explicates) the concept of a natural end and explicitly subsumes the "special class" of natural product—namely, "organized beings"—under this concept. In §66, Kant formulates a general principle, stated in teleological terms, clearly intended as a guide for concept-users intending to apply the concept of a natural end empirically. Natural organisms appear to be the only empirical phenomena that can meet the requirements of §66's principle.[297] In section §67, Kant argues that the concept of a natural end (and the teleological judgment that employs it) is to be regarded as an "internal principle" of natural science. Taken together, these sections strongly suggest that Kant's interest in natural organisms and his interest in conceptualizing natural ends are linked under a larger explanatory concern. In §65, you find these two interests explicitly linked under this larger explanatory concern.

In §65, Kant is facing an explanatory crisis. A recalcitrant class of natural phenomena (organized beings) pose a threat to the fulfillment of reason's

[297] In fact, under my view, what we find in section §66 is a crisis of in the application of the concept of that principle. But this issue is the focus of another chapter.

representational imperative, namely, to "cognize the necessity" in all of nature's forms. Organized beings cannot (in Kant's mind, anyway) be adequately explained in mechanistic terms. Consequently, because Kant acknowledges that there are only two general sorts of explanatory norm at reason's disposal -- mechanistic and teleological -- organized beings are natural phenomena of a sort that must be explained *teleologically* if reason is going to succeed in cognizing the necessity in their forms. However, because organized beings are products of nature (and therefore not literally artefactual products), the trick is to engineer a concept that allows concept-users to explain these phenomena teleologically without also conceptualizing them literally as products of art. Hence the aim is to engineer the concept of a *natural* end.

Is there something that is characteristic of natural organisms that makes them especially amenable to teleological explanation? If so, what is that internal structure and in virtue of what do they possess it? The answer is 'yes' and furthermore the special feature attaching to natural organisms which makes them suitable for teleological explanation is that they are material wholes of a special sort. According to Kant natural organisms are material wholes with uniquely systematized (and norm-governed) infrastructures.

> **An organized product of nature is that in which everything is an end and reciprocally a means as well**.[298]
>
> In such a product of nature [organized beings] each part is conceived as if it exists only through all the others, thus [each part is conceived] as if existing for the sake of the others and on account of the whole, i.e., [each part is

[298] *CPJ*, §66.

> conceived] as an instrument (organ), which is, however, not sufficient [for something to count as a natural end] (for it could also be an instrument of art, and thus represented as possible at all only as an end); rather it must be thought of as an organ that produces the other parts (consequently each produces the others reciprocally), which cannot be the case in any instrument of art, but only of nature, which provides all the matter for instruments (even those of art): only then and on that account can such a product, as an organized and self-organizing being, be called a natural end.[299]

Natural organisms are material wholes whose parts are functionally interdependent. In what follows, I offer an interpretation in which Kant's interest in natural organisms is taken to reflect an acknowledgement that these phenomena are uniquely capable of meeting the conceptual requirements imposed by Kant's model of reciprocal interaction.[300] I submit that Kant uses this model as a conceptual template under which certain eligible natural phenomena (organized beings) are to be subsumed so that they can be explained in the terms provided by Kant's Model. As already remarked, this Model is of a type that explains phenomena in intentional (or teleological) terms. So within this explanatory framework phenomena are to be explained as the *end-products* of intentional causation (by "remote analogy" with products of art). And insofar as the concept of a natural end uses the concept of an 'end' concept-users cannot apply the former independently of the latter.

In light of reason's explanatory emergency, Kant is engineering a conceptual content specifically for the teleological judgment of nature's products as *natural* ends. In §65 Kant states two conditions under which concept-users are entitled to subsume

---

[299] *CPJ*, §65, 5:374.

[300] And since I hold that the Model of reciprocal interaction is encoded in the category of community, subsumptions under the former are equivalent to subsumptions under the latter.

natural products under the concept of a natural end. The first condition, as we will see shortly, contains two subrequirements -- the first being (what I have called) *part-on-whole dependency* (whole priority), the second being (what I will here refer to as) a *naturalizing* condition. Both of these subrequirements jointly constitute the conceptual content Kant has engineered for the concept of a natural end. When cognitively subsumed under the first subrequirement (part-on-whole dependency), an object is represented *as an end*, that is, as the *effect* of intentional production. The second subrequirement, however, is supposed to function as a naturalizing constraint on the first by mandating that any object subsumed under the concept of a natural end not compromise its ontological status as *a product of nature*. For products of nature are to be understood only by "remote analogy" to products of art. Here Kant appears to have made it a part of the intensional content of the natural end concept to conceptually negate all reference to a rational agent, one at any rate that would be (in a sense to be explained later) causally "external" to the natural phenomena represented under this concept.

I said that (in §65) there are two conditions under which the concept of a natural end may be applied. The first has just been sketched. The first condition expresses the representational *content* Kant has engineered for the concept of a natural end; moreover, this content determines the sort of necessity that is to be represented in the phenomena subsumable to it. Concept-users are therefore under the requirement to represent a phenomenon in conformity with this content whenever they would represent it as a natural end; which is to say that when they represent a

material body as a natural end, it must be representable as the effect of intentional causation. And here is where the second condition comes in. The second condition plays a somewhat different role from the first. It doesn't specify the sort of necessity to be cognized in certain phenomena (natural organisms); rather the role played by the second condition is to provide *a prior conceptualization* of these phenomena, one that makes it *possible* to explain them in the terms imposed by the first condition. In other words, the second condition works in tandem with the first by conceptualizing a set of natural phenomena in a way that makes them explanatorily amenable to Kant's Model.

I submit that this prior conceptualization should be specified as that of a relational structure, one explicated under the concept of reciprocal interaction. As we have already seen, it is (in Kant's mind, anyway) only under the description of a plurality of material substances as standing in relations of reciprocal interaction that concept-users would be compelled to posit an idea or conception of a whole as the *ground* of their interrelations. On the assumption that concept-users are forced to explain natural organisms in intentional terms, where that involves positing an idea or conception of a whole as the condition of their possibility, it would therefore ultimately be due to a prior application of the model of interaction to these phenomena that an intentional explanation of them is possible. With the aid of this prior conceptualization, these natural phenomena could be subsumed under the concept of a natural end, thereby allowing reason to cognize the (teleological) necessity in their forms and consequently avert its explanatory crisis.

9.2 Reason's Explanatory Emergency (In Sections §§64-67)

The background explanatory concern driving sections §§64-67 can plausibly be reconstructed in the following way: (1) Reason's imperative is to represent nature as a domain of causal necessity (i.e., causal nexus). To that end, there are two versions according to which nature can be represented as a causal nexus: as a system of effective causes or a system of final causes. (2) In order to represent nature as a causal nexus, reason must "cognize the necessity" in *all* of nature's forms. Cognizing the necessity in a given natural form can be achieved in either of two ways, according to two different explanatory norms -- mechanistic explanation (MEs) and teleological explanation (TEs). (These explanatory norms correspond to effective causes and final causes respectively.) (3) But (huh-oh) natural organisms constitute a "special class of natural product" in that they cannot be adequately explained in mechanistic terms. (4) So, if reason is going to *succeed* in cognizing the necessity in *all* of nature's products, *including organized beings*, and then it must resort to the teleological explanation of some natural forms.

According to Kant reason wants to be able consider the entirety of nature as a domain of causal necessity. In the *CPJ* Kant writes:

> Since reason must be able to cognize the necessity in every form of a natural product if it would understand the cognitions connected with its generation, the contingency of their form with respect to all empirical laws of nature in relation to reason is itself a ground for regarding their causality as if it were possible only through reason.[301]

[301] *CPJ*, 5:370.

A causal nexus is *a domain of causal necessity* in which all natural phenomena are causally necessitated by antecedent determinants in accordance with certain natural laws. The existence of any given phenomena is causally necessitated by the existence of some other phenomena which has brought it about in a way that can be understood or explained by reference to and in terms of the laws governing a given domain. According to Kant, empirical reality is a domain governed entirely by mechanical laws. "All generation is mechanical"-- this is the principle of mechanism that governs all natural phenomena. All products of nature (and the processes governing their generation) must therefore be explained under a mechanistic explanatory norm.

However, organized beings constitute a "special" class of natural phenomena whose structural organization and generation cannot be explained by reference to mechanical laws. Since the existence and/or occurrence of such natural phenomena as organized beings cannot be explained in terms of the mechanical laws of nature, we cannot regard such phenomena as causally necessitated because the only recognized form of causal necessity is (so far) the one conceptualized in mechanistic terms. And since natural organisms are not explainable under a mechanistic explanatory norm, it would appear concept-users face a dilemma: either they must deny that these phenomena actually exist in nature; or they must include such phenomena at the cost of violating reason's mandate to "cognize the necessity" in all of nature's forms. Clearly, the first horn of this dilemma is not a real option; no one would deny that natural organisms are in fact products of nature. So unless there is some other explanatory norm that can be applied to natural organisms, it would

appear that reason's mandate to cognize the necessity in all of nature's forms must remain in unfulfilled.

9.2.1 Natural Organisms Exemplify Normative Standards of Composition

In the third critique, Kant views organized beings as natural systems, ones that can be made "intelligible" only from the standpoint of reason. When we make a judgment from this standpoint, we make use of the concept of a natural end, a concept which "leads reason into an order of things entirely different from that of a mere mechanism of nature" (*CPJ*, 5:376-7).[302] Kant's bird wing example illustrates what is involved in the exercise of teleological judgment:

> [O]bjective purposiveness, as a principle of the possibility of the things of nature, is so far from being *necessarily* connected with the concept of the latter that it is rather precisely that to which one refers above all in order to prove the contingency of it (of nature) and of its form. For if one adduces, e.g., the structure of a bird's wing, the hollowness of its bones, the placement of its wings for movement and of its tail for steering, etc., one says that given the mere *nexus effectivus* in nature, without the help of a special kind of causality, namely that of ends, (*nexus finalis*), this is all in the highest degree contingent: i.e., that nature, considered as a mere mechanism, could have formed itself in a thousand different ways without hitting precisely upon the unity in accordance with such a rule, and that it is therefore only outside the concept of nature, not within it, that one could have even the least ground a priori for hoping to find such a principle.[303]

Natural organisms appear to be things of a sort, which demand certain specific parts;

---

[302] On this point Kant states: "A teleological judgment compares the concept of a product of nature as it is with one of what it **ought to be.** Here the judging of its possibility is grounded in a concept (of the end) that precedes it *a priori*. There is no difficulty in representing the possibility of products of art in such a way. But to think of a product of nature that there something that it **ought to be** and then to judge and then to judge whether it really is so already presupposes a principle that could not be drawn from experience (which teaches only what things are)" (*CPJ*, FI, 20:240).

[303] *CPJ*, §62, 5:360.

a bird's wing can't be combined in any old way. There is a *limited range* of combinations that can intelligibly be regarded to constitute a bird's wing. Any given combination of parts which is to be regarded as the combination of a bird's wing must meet certain semantic norms, ones that rule out (as unintelligible) a multitude of other combinations (as unwing-like). The bird's wing is made up of certain kinds of parts, as opposed to others. The acknowledgement of this narrowed range of compositional possibilities expresses a general semantic fact about natural organisms: that they are made up of parts and that their particular part-ontologies reflect normative species-specific standards of combinatorial correctness (and incorrectness). These normative standards appear to be a defining feature of natural organisms.

Operating under a purely mechanistic explanatory standpoint. A purely mechanistic standpoint on all of nature's phenomena appears to conceptually negate any basis for acknowledging the *normativity* attaching to the internal structure of a bird's wing. (Indeed, from an exclusively mechanistic standpoint, standards of compositional correctness, as they apply to material composites, are not acknowledge*able*.) From a mechanistic standpoint, the structure of a bird's wing is just one among millions of other different (but equally possible) physical configurations. In which case, the one that has actually occurred—the one that is exemplified in the bird's wing -- is totally contingent relative to these others possible configurations. From a purely mechanistic standpoint, reason is therefore unable to view the actual configuration of a bird's wing as a *necessitated* phenomenon. As

remarked, this result is unacceptable to reason, which must "cognize the necessity" in all of nature's products, including their particular "forms" (or physical composition).

Under a mechanistic conception of matter, there would appear to be no nonarbitrary qualitative or quantitative distinctions. Any particular scheme of numerical division that is applied to bleached matter is entirely underdetermined, which means that any which is actually applied is totally contingent and the corresponding part-ontology (under that division scheme) would therefore be entirely arbitrary. With regard to spatiomaterial continua (= homogeneous extended matter), were you to posit a scheme of division for some quantity of matter (say, O), O would be divided up according to that division scheme into n-many actual material parts. Since under this conception of matter, any part-ontology is entirely arbitrary, it seems to follow that any whole-ontology would be also be arbitrary. Because these parts would be homogeneous any material composite made up of these parts would be one that is arbitrarily composed, it having no greater ontological claim to objecthood than any of its (separable) parts. And if there were multiple Os, multiple material composites, the parts of one O would be entirely *swappable* with those of another O*, because there would be no qualitative basis (other than spatial position) to distinguish this O from that O*.

According to Kant it is *because of* the cognition of the *normativity* concerning natural organisms' internal composition that we perceive the *inadequacy* of the understanding's mechanistic explanation concerning such phenomena.

> [O]bjective purposiveness, as a principle of the possibility of the things of nature, is so far from being *necessarily* connected with the concept of the

> latter that it is rather precisely that to which one refers above all in order to prove the contingency of it (of nature) and of its form.[304]

Because natural organisms are understood to be natural systems and may be viewed as such only from a *teleological* standpoint on nature, (a standpoint that is reason's not the understanding's), these phenomena appear to induce a perception of *contingency* (on the part of the understanding) concerning their forms.

How does a purely mechanistic conception of matter lead to a violation of reason's mandate to represent nature as a causal nexus? According to the norms of mechanistic explanation, any material configuration is as good as any other; but in the case of natural organisms, not only is it not the case that any configuration of parts possible; natural organisms require specific *kinds* of parts and these are not swappable with the parts of other natural organisms; moreover, these parts must be ordered in very particular *ways*. Under a mechanistic conception of matter, the normative composition of organisms would (contrary to fact) be unthinkable.[305] According to Kant, were we not to empirically apply the concept of a natural end to organized beings (and to nature in general), we could not represent these phenomena because (for us) natural organization consists in a type of *systematicity*, one that can be "made intelligible" only in teleological terms, as a system of ends.[306]

---

[304] *CPJ*, §61, 5:360.

[305] It is interesting to speculate whether Kant thinks that, under a bleached conception of matter, nature would be wholly without any norms governing its phenomena, or whether purely homogeneous matter could by itself ground a mechanistic conception of nature, one in which determinate material things exist and stand in causal relations to other material bodies.

[306] In the third critique Kant states: "To judge objective purposiveness we always require the concept of an end, and [if that purposiveness is not to be an external one (utility),but an internal one],

9.2.2 Motivating the Concept of a Natural End

The condition of conceptualizing a given material body as a *natural end* is that its parts stand in certain teleological relations. However, since (on my view) this concept's intensional content is engineered by Kant in response to reason's explanatory crisis, the question may still be posed as to how this crisis puts pressure on Kant to engineer the natural end concept in a way that mandates a body's parts stand in relations of this sort. Getting a clearer grasp of what motivated Kant to engineer the concept of a natural end in the way that he does will give us, in turn, a clearer grasp of what its prior application condition is.

Reason has determined a means for cognizing the necessity of a particularly recalcitrant class of natural phenomena -- natural organisms. The cognitive means of realizing its imperative in relation to this "special class" of natural product is given in the teleological judgment. A cognitive judgment of this kind makes use of the concept of a *natural end*. Having acknowledged this, however, it must be emphasized that for any natural product to be represented under the concept of a natural end, it must first be represented under the general concept of an *end*.

> Now if we consider a material whole, as far as its form is concerned, as a product of the parts and of their forces and their capacity to combine by themselves (including as parts other materials that they add to themselves) we

---

we require the concept of an internal end, which contains the ground of the internal possibility of the object. Now as an end in general is that the **concept** of which can be regarded as the ground of the possibility of the object itself, thus in order to represent an objective purposiveness in a thing the concept of **what sort of thing it is supposed to be** must come first; and the agreement of the manifold in the thing with this concept (which supplies the rule for the combination of the manifold in it) is the **qualitative perfection** of a thing. **Quantitative** perfection, as the completeness of any thing in its own kind, is entirely distinct from this, and is a mere concept of magnitude (totality), in which **what the thing is supposed to be** is thought of as already determined and it is only asked whether **everything** that is requisite for it exists" (*CPJ*, 5:227-8, underscoring added).

> represent a mechanical kind of generation. But from this there arises no concept of a whole as an end, whose internal possibility presupposes throughout the idea of a whole on which even the constitution and mode of action of the parts depends, which is just how we must represent an organized body.[307]

The intensional content Kant engineers for the concept of a natural end spells out the *terms* in which we must grasp the sort of necessity to be cognized in regard to the phenomena of natural organisms. When the whole-organism is identified as a (final) end, its component parts are thereby conceptualized as so many (constitutive) means toward its composition. By prescribing themselves as targets of composition, organisms, as *natural systems*, model teleological structure in propria persona and consequently make themselves amenable to rational explanation.

If viewing a whole-organism as a natural end means (or, at any rate, involves) viewing it as a target (or scopus) of composition, then according to Kant concept-users must also explain the whole-organism's form and existence by reference to a prior idea or conception of it (see 10.8). Part-on-whole dependency is the defining feature a material composite must have in order for concept-users to represent it under the concept of an 'end'. The basic idea expressed in the thesis of part-on-whole dependency is that, for any material body that exhibits it, the representation of its parts is conceptually dependent on a prior *idea* of a whole. In 2.5 we saw that part-on-whole dependency is the trademark (or, at any rate, the mereological expression) of rational systematicity; moreover, according to Kant this sort mereological structure requires a special sort of explanation, namely, that of final causality. Part-on-whole

[307] *CPJ*, §77, 5:408-9, underscoring added.

dependency is therefore not what *explains* but rather what *constitutes* objective purposiveness. It is in terms of final causality (of appearing to have been *made)* that an organism's various parts can be viewed as a system of means/end relationships, all of which subserve a highest-order system-goal (namely, that of composing the whole-organism). Reason is therefore able to "cognize the necessity" in natural organisms only insofar as it can view them as modeling rational systematicity in propria persona.

9.3 Analysis of §65'S First Condition

In §65, Kant gives us *two* conditions under which a given material body can be viewed as a natural end. Here is the first one:

> Now for a thing as a natural end it is requisite, first, that its parts (as far as their existence and their form are concerned) are possible only through their relation to the whole. For the thing itself is an end, and is thus comprehended under a concept or an idea that must determine *a priori* everything that is to be contained in it. But insofar as a thing is conceived of as possible only in this way it is merely a work of art, i.e., the product of a rational cause distinct from the matter (the parts), the causality of which (in the production and combination of the parts) is determined though nature outside it).[308]

In the next paragraph Kant offers a shorter restatement of the first condition in the context of presenting a second condition:

> But if a thing, as a natural product, is nevertheless to contain in itself and its internal possibility a relation to ends, i.e., is to be possible only as a natural end and without the causality of the concepts of a rational being outside it, then it is required, second, that its parts be combined into a whole by being reciprocally the cause and the effect of their form.[309]

---

[308] *CPJ*, §65, 5:373.

[309] *CPJ*, §65, 5:374.

Notice that the second citation expresses a conditional. Notice, further, that §65's first condition is being stated again but this time it is reinstated more concisely as the antecedent of a conditional. Although Kant has lapsed into a *de re* orientation, he is clearly imposing conditions on concept-users' *judgments*, saying that in order to represent some product of nature O under the concept of natural end, they must on the one hand think of O's form and existence as being of a sort explainable only in *teleological* terms, using the concept of an *end*; on the other hand because O is a product of *nature*, O's status as a natural product must not be compromised by explaining its form in (what appear to be) the same terms used to explain products of art.

Notice that there appears to be two subrequirements. The first (of two) conditions stated in §65 appears to be as follows: (1) In order to subsume a given natural product O under the concept of a *natural end*, concept-users are subject to two subrequirements: (a) to view O's form and existence as one whose "internal possibility" presupposes an 'end' and (b) to do so in a way that does not compromise O's status as a product of nature. (I defer discussion of (b) until later.) When Kant asserts (a) he is asserting the same claim as when he says "[f]or the thing itself is an end, and is thus comprehended under a concept or an idea that must determine *a priori* everything that is to be contained in it." Here it is clear that Kant is asserting the thesis of part-on-whole dependency (or whole priority).

9.4 Analysis of Section's §65'S Second Condition

The aim now is to analyze the second (of two) conditions given in §65. The text below expresses §65's second condition for representing an object as a natural end. Notice that both the first and the second conditions are embedded in a larger conditional:

> But if a thing, as a natural product, is nevertheless to contain in itself and its internal possibility a relation to ends, i.e., is to be possible only as a natural end and without the causality of the concepts of a rational being outside it, then it is required, second, that its parts be combined into a whole by being reciprocally the cause and the effect of their form.[310]

Kant is asserting a *conditional* proposition in which the first condition occupies the position of the antecedent while the second condition is in the position of *consequent*. We might reasonably suppose from this that the structure of the conditional would determine the logical role the second condition plays in relation to the first. On the suggestion that we should acknowledge the structure of the conditional (expressed in the citation above) as playing some significant role in how §65's two conditions should be understood, our objective would be to figure out what the conditional says *as a whole*. This implies that whatever the consequent asserts, it operates as a (necessary) condition under which concept-users can subsume a given natural product under the concept of a natural end.

I have already given an analysis of the antecedent of the conditional. Now the aim is to provide an analysis of its *consequent* (excerpted below):

[310] CPJ, §65, 5:374, underscoring added.

> [I]t is required, second, that its [the thing's] parts be combined into a whole *by [something's] being reciprocally the cause and the effect of their form*. [311]

Kant says that "it is required, second, that its [the thing's] parts be combined into a whole by being reciprocally the cause and the effect of their form." Here the referent of 'their form' appears to be "its parts," where 'its' refers to the thing, as a natural product. We start off with the idea that the thing's parts "be combined into a whole by being reciprocally the cause and the effect of their form." So the desired end-result is that the thing's parts be combined into a whole. And the text which begins "by being ... " is meant as a locution indicating the *process* or *action* or *means* by which that result is to be obtained. Now the question is this: In "being reciprocally the cause and the effect of their form" *what* exactly is the means by which a thing's parts are combined into a whole? Answer: A set of parts constitutes a whole by means of *something*, which which Kant describes as "reciprocally the cause and the effect of their form?"

But what is this something? The text is ambiguous. We can disambiguate two different interpretations of §65's second condition:

Gloss a) the *whole's* being reciprocally the cause and the effect of their form

Gloss b) the *parts'* being reciprocally the cause and the effect of their form

In order to get clear about what Kant's second condition is, it is necessary to consider each of these. Under gloss (a), Kant's second condition mandates that in order to cognitively recognize O as a natural end, O must be combined into a whole "by [the

[311] *CPJ*, §65, italics added.

whole's] being the cause and the effect of their form." Under gloss (a) there is some redundancy insofar as it reasserts the condition of whole priority (Kant's first condition) by mandating that the whole is the cause of the parts' form. But there's more. It also states that the whole is reciprocally the *effect* of the parts' form. How should be construe the parts' causality of the whole? One way to understand gloss (a) is to read it as imposing *both* whole priority and part priority as the means by which a thing's parts are combined into a whole. (This counts, in fact, as a gloss on a gloss.)

The thesis of part priority asserts that the whole is *the sum of its parts* -- different sum; different whole. When considered as a sum of actual parts (a mere aggregate) a whole is entirely ontologically derivative of the parts. But the parts of a whole are *not* conceptually dependent on a prior conception of a whole for their identity and interrelations. Under this discursive representation of a whole (as sum of actual parts), the parts are contingent in two ways already discussed: first the division of any whole (considered as sum of parts) depends on a scheme of numerical division; and since (in the case of homogeneous matter), the application of any determinate scheme of division is arbitrary, so is the resulting part-ontology. Second, on the assumption of a given scheme of division, the parts of a given material whole are entirely swappable with (and therefore separable from) the parts of any other contingently formed aggregate. No part is indispensable to any material whole (considered from a purely mechanistic point of view). On the contrary, every part belonging to a given material whole is "external" to every other, meaning that the composite they form is entirely decomposable.

One incoherent package? This reading of gloss (a) doesn't appear to work, however. This is because the theses of whole and part priority logically cancel each other out. In part priority, the parts are *not* conceptually dependent on a prior conception of a whole for their identities; or, at any rate, the identity each part does have (under a given scheme of division) is one it can retain independently of the whole it was originally a part of. This is not the case with part-on-whole dependency. So you couldn't have a single whole O whose parts were such that they are both conceptually dependent on the whole (of which they are parts) and not so dependent. But Kant's first condition (in §65) makes the judgment of O as a natural end depend on O's exhibiting part-on-whole dependency; in that case O's parts must presuppose a prior conception or idea of a whole as a condition of their form and existence. So, in mandating part-on-whole dependency as a condition under which a natural product can be viewed as a natural end, how can Kant consistently add a second condition that appears to combine a reaffirmation of part-on-whole dependency together with a thesis asserting that a thing's parts *need not presuppose* a prior conception of a whole? Under reading (a) Kant appears to mandate both whole and part priority together into one incoherent package.

One could further point out that because part priority implies Axioms of Intuition-style mathematizable aggregation and is affiliated with mechanistic explanation, it could hardly possess the conceptual resources needed to represent natural phenomena as *ends*. The reason is that in §65 Kant is supposed to be giving us conditions under which we can recognize natural phenomena to be eligible for

teleological explanation, an explanatory norm that he explicitly contrasts with mechanistic explanation.

According to Kant part priority could never be sufficient for the generation of a whole in which the parts depend for their identity and individuation (their parthood) on a prior conception of the whole. As remarked, under the thesis of part priority wholes are mere aggregates that implies that the parts are "external" to each other.

> For this concept [of a natural end] leads reason into an order of things entirely different from that of a mere mechanism of nature, which will here no longer satisfy us. An idea has to ground the possibility of the product of nature. However, since this is an absolute unity of the representation, while matter is a multitude of things, which by itself can provide no determinate unity of composition, if that unity of the idea is to even serve as the determining ground *a priori* of a natural law of the causality of such a form of the composite, then the end of nature must extend to everything that lies in its product.[312]

In the case of aggregated matter the parts are not necessarily united. And because its parts are not "internally" related, an aggregated material composite does not exhibit any necessary unity in its internal composition; therefore it is not one for which it is necessary to hypothesize an idea or conception of the whole. But if reason is to be able to cognize the necessity in all of nature's products, then a body's internal composition must exhibit a causal structure, one that can be interpreted as a system of mean/end relations. For this to be possible, however, material bodies must be things of a sort that generally exhibit part-on-whole dependency, since this appears to be (in Kant's mind, anyway) the condition under which natural products are eligible to be explained teleologically. What this suggests is that the role to be played by §65's

[312] CPJ, §66, 5:377, underscoring added.

second condition is this: it must make it possible for material wholes to be things *of a sort* to require the hypothesis of an idea or conception of a whole, one that is capable of determining beforehand what the parts of a material whole are supposed to be and, in addition, able to make it possible for these parts to be viewed as necessarily unified.

So far I have not shown categorically that gloss (a) is incorrect. I have shown only that gloss (a) is incoherent under an interpretation in which it is seen to contain both the theses of whole priority and part priority. I have suggested that since §65's second condition is to be interpreted in light of reason's interest in cognizing the necessity in nature's forms and since the material wholes that are generated merely by a process of combination-as-aggregation (part priority) aren't ones in which there is any necessity to cognize, we have reason to reject gloss (a). But maybe there are other interpretations. Be that as it may, I think a *prima facie* case has been made against gloss (a)'s plausibility as an interpretative hypothesis. But we will see, in addition, that gloss (a) offers us no real insight into why (or how) §65's second condition can play the role that Kant intends for it, whereas gloss (b) does.

9.5 Reciprocal Interaction As an Implicit Conception of a Body's Composition

Above I said that whatever interpretation is given the second condition imposed on the judgment of natural ends, it must square with other nearby texts. Below I cite the second condition in context:

> But if a thing, as a natural product, is nevertheless to contain in itself and its internal possibility a relation to ends, i.e., is to be possible only as a natural

> end and without the causality of the concepts of a rational being outside it, then it is required, second, that its parts be combined into a whole by being reciprocally the cause and the effect of their form. For in this way alone is it possible in turn for the idea of the whole conversely (reciprocally) to determine the form and combination of all the parts: not as a cause - for then it would be a product of art - but as a ground for the cognition of the systemic unity of the form and the conjunction of all the manifold that is contained in the given material for someone who judges it.[313]

Here Kant appears to be saying that the second condition plays a supportive role to whole priority. Notice that however we interpret the second condition, the reading given to it must be consistent with the importance that Kant assigns to it. The second condition in §65 appears to be the *sole* condition ("in this way alone is it possible in turn ...") to *make it possible* for "the idea of the whole conversely (reciprocally) to determine the form and combination of all the parts."

It isn't clear from the immediate context what is meant by "the idea of the whole conversely (reciprocally) to determine the form and combination of all the parts ... ". Here Kant seems to be explicitly acknowledging a *bidirectional* causal structure in which the participating relata are a (set of) parts on the one hand and a whole on the other such that the parts determine the whole and the whole, reciprocally, determines the parts. So, we have the following pair of causal relations:

1) the parts are determined by the whole

2) the whole is determined by the parts

I am aware that in the citation above Kant states that it is "the *idea* of the whole conversely (reciprocally) to determine the form and combination of all the parts ... "

[313] *CPJ*, §65, 5:374.

(italics added). Rather than take it for granted, I have begun with a simpler formulation in order to put us in a position to motivate this additional nuance. Assume (1) expresses the thesis of whole priority. (Doing so, of course, entails that it is the *idea* or conception of the whole which acts as the determiner of the parts.) What is (2) asserting? And how can we square (2) with the rejection of part priority as a condition under which the judgment of natural ends is possible? Above I argued that gloss (a) constitutes an incoherent package including both whole and part priority. Since the second condition is embedded in conditional proposition (specifically as the consequent), it was understood as a condition under which the antecedent is possible; since, moreover, the antecedent expresses the semantic/cognitive content of the judgment of O as a natural end -- how concept-users have to conceptualize O when representing O as a natural end -- the second condition (by occupying the position of consequent) was accordingly regarded as the prior condition of forming conceptual content of this precise sort.

However, above I argued that part priority cannot be combined with whole priority into a single package (for purely logical reasons), and, in addition, I argued that part priority does not have the conceptual resources to ground cognitions of necessary material unity. And since the broader issue being addressed in §65 is how reason can successfully negotiate its explanatory crisis, the need to fulfill its mandate to "cognize the necessity" in all of nature's forms, the fact that part priority fails to serve reason's interest here would be a good reason to think that (2) does not express the thesis of part priority. Well, if not the thesis of part priority, what does (2) assert?

We begin by introducing the following new causal relation:

3) the parts are determined by the other parts

Let O be a product of nature. Then, in the case where O is a natural organism, Kant's claim is that O's parts will be interrelated in a way so as to make it *necessary* for concept-users (who are interested in explaining O's form) to posit a prior idea or conception of a whole. Since the objective referent of that idea is the organism itself, let us call the idea posited by judgers who are interested in explaining O's form, O's *ideal counterpart* ('ideal' meaning 'mental'). The basic idea here is that it is owing to *the parts* and their *interrelations* that the material whole they jointly compose is one for which judgers are, in the interest of explaining O's form, explanatorily required to posit an underlying idea as a ground. And since it is only on the presupposition of O's ideal counterpart that O's whole priority can be acknowledged, (3) appears to be the condition under which concept-users can subsume O under the concept of a natural end:

> For a body, therefore, which is <u>to be judged as a natural end</u> in itself and in accordance with its internal possibility, <u>it is required that its parts reciprocally produce each other, as far as both their form and their combination is concerned</u>, and thus produce a whole out of their own causality, the concept of which [=of the whole], conversely, is in turn the cause (in a being that would possess the causality according to concepts appropriate to such a product) of it in accordance with a principle; consequently the connection of efficient **causes** could at the same time be judged as an **effect through final causes**.[314]

[314] *CPJ*, §65, 5:373-4, underscoring added.

Notice, first, how Kant is referring to reciprocal causal relations but that the relata of these causal relations are not a set of parts on the one hand and the whole on the other. Kant is not reiterating the condition of whole priority. Notice what Kant is saying: that the relation between two parts, x and y, are such that x is a condition of y's form and y is, reciprocally, the condition of x's. The *determiner* of the part's form is another part; the thing whose form is *being determined* by a part is another part. Kant is imposing the condition of reciprocal causal interaction *among the parts*. The second thing to see is that this text bears relevantly on the two interpretations offered in the preceding section for §65's second condition: Not only is this text another nail in the coffin for gloss (a), it is fairly explicit textual support for gloss (b): that it is by means of the *parts'* being reciprocally the cause and the effect of their form that the parts are combined into a whole.

Third, notice that Kant at first is focused on the norm under which we can make a judgment of a certain sort, on the conditions under which concept-users can instate a certain sort of conceptualization (that of a natural end). When Kant says "[f]or a body, therefore, which is *to be judged* as a natural end in itself ... " (italics added), he seems to be saying something along the general lines of: A rule for all you concept-users: To judge O as an F, it is required that you judge O as a G. In a regressive argument (what Kant usually gives when he's performing in the role as transcendental philosopher), the concept of G would be a condition under which F's can be conceptualized (or cognized) at all. In light of this general methodological fact, we could take Kant to be laying down subsumptive law by imposing normative

constraints on F-subsumptions: he's saying that F-subsumptions are ones concept-users are cognitively entitled to only if they have made prior G-subsumptions: the conceptual condition of cognitively taking O as an F is first taking O as a G. (This is conceptual, not necessarily epistemic, priority, however.)

For Kant concepts are normativity-bearing entities and *requiredness* is a conceptually normative notion. So the only way for two entities, x and y, to stand in a requirement relation is if they are subsumed under two *concepts* that stand in a requirement relation. Or to adapt the case more precisely to the present context, the only way for *one* thing x to be under any requirement to be conceptualized in *multiple* ways (e.g., as a natural product *plus* as an 'end' thus: as a *natural end*) is if x is initially given a conceptualization C such that C stands in a requirement relation to another conceptualization C*. In that case when x is subsumed under C, x is thereby subsumed under C* and consequently stands under any additional requirements imposed by the latter. Notice here, however, that the relata of the requirement-relation are the *concepts* C and C*, not x directly. Notice also that it is because of some initial subsumption (under C) that x can be under any requirement to meet another conceptual requirement.[315]

Above notice that later on in the same sentence Kant *switches* to a *de re* orientation, asserting what has to be the case with the *body's* parts and their interrelations. Kant might be excused this lapse in referring directly to the body's

[315] Kant would probably give the point a slightly stronger formulation: that it is by virtue of some (implicit) subsumption or other that x could be under any requirement to meet a *conceptual* requirement.

parts and their interrelations because it is after all the world of spatially extended bodies that concept-users' cognitive judgments are intentionally directed at: it is *to* material bodies (the intentional objects of perceptual states) that concept-users direct their conceptualizations. So since in the present context Kant appears to be articulating a rule concept-users are required to follow in order to empirically instate the concept of a natural end and since, in addition, this amounts to saying that there is some other concept C which must be instated as a prior condition of using the natural end concept, we should therefore ask what concept Kant is referring to *indirectly* when he refers to a body's parts and their required interrelations *directly*?

I'm suggesting that just because Kant lapses into a *de re* orientation in referring directly to the body's parts and their required interrelations, we don't have to interpret this as his departure from the intention to specify the conceptual conditions for empirically applying the natural end concept. We should instead take the description Kant gives of the body's parts and their interrelations to express a conceptual norm that in the present context is *implicit* and in that light take the description given of the parts' interrelations as a *prescription* expressing that same implicit conceptual norm, whatever it is. Because when Kant says that interrelations of a certain sort among a body's parts are a *requirement* for applying the concept of a natural end to that material body, his acknowledgement of the requiredness should be understood not as a causal relation between the material body and the subsumption of concept-users but rather as a *discursive relation* between the natural end concept and

some other concept, one whose intensional content presumably expresses those required interrelations.

I submit, as an interpretative hypothesis, that we specify this implicit concept (of a body's internal composition) as the concept of *reciprocal interaction*. Under the suggested hypothesis, we should expect Kant's model of interaction to be importantly linked to the issue over how a material composite must be represented so as to make it possible to apply the concept of a natural end to it. In Chapter 5, I have already shown how Kant's use of the concept of reciprocal interaction is linked to his physicoteleology, that is, to an intentional explanatory framework. There, I noted that interactive structure seems to be of a sort to require us to hypothesize a prior conception of a whole in order to explain its occurrence. In Chapter 10, the aim is provide further textual evidence for the conceptual linkages among reciprocal interaction, the concept of a natural end, and Kant's physicoteleology.

Chapter Ten

CONFIRMING THE MODEL'S IMPLICITNESS (IN THE THIRD CRITIQUE)

10.0 Introduction

According to Kant concept-users (of §65) are entitled to apply the concept of a *natural end* under certain conditions, one of which involves a prior representation of a body's parts and their interrelations. In §65 Kant appears to think that the interrelations among a body's parts need to be of a certain sort in order to induce concept-users to posit a conception of a whole as a presupposition of the body's material unity.

> [I]t is required that its parts reciprocally produce each other, as far as both their form and their combination is concerned, and thus produce a whole out of their own causality, the concept of which, conversely, is in turn the cause (in a being that would possess the causality according to concepts appropriate to such a product) of it in accordance with a principle. . . .[316]

Under this prior conceptualization, it is supposed to be possible for a body's parts to exhibit part-on-whole dependency (whole priority) and consequently make the concept of a natural end applicable to it; which is to say that under this same conceptualization, it is supposed to be possible for reason to "cognize the necessity" in the body's form. In the last chapter the issue over how to specify this prior conceptualization (of the parts and their interrelations) was raised and provisionally settled. I suggested that the concept implicit in section §65 is the concept of

[316] *CPJ*, §65.

reciprocal interaction. In the present chapter the aim is to textually support this suggestion.

A point of clarification is in order here. I have already shown (or, at any rate, plausibly suggested) that the model of interaction is motivated by explanatory concerns and that, in addition, it is an integral part of (indeed indispensable to) a larger intentional explanatory framework, one I have referred to as Kant's Model. So if (as I claim) the model of interaction were implicit in certain sections analyzed in Kant's third critique, then the larger explanatory framework of which it is an integral component would also be implicated thereby. (Hence the ambiguity in the use of 'model' in the title of this chapter.) In that case, we could also reasonably expect to find evidence of the Model's implicitness in the sections analyzed.

The interpretative hypothesis being advanced is that Kant's Model is implicit in certain key sections of the third critique (Analytic of Teleological Judgment). Interpretative hypotheses should have predictable (and specifiable) consequences, ones that make its confirmation possible. So the aim should not be to import a conceptually foreign construct into the third critique and graft it into uncongenial adipose tissue; rather, the aim should be to show how various texts (in that work) can be illuminated by reading them in light of Kant's Model. I think the metaphor of an organ transplant is a useful construct under which to conceptualize the aim of the present chapter. In the absence or failure of a vital organ (say, a heart or kidney) a human organism cannot sustain its proper functioning. A donor organ (preferably from a blood relative) is therefore transplanted to the host organism in order to

sustain the host's continued functioning. However, in order to perform its functions, the transplanted organ must be connected to its host in various appropriate ways. In this chapter the aim is to provide the appropriate connections between the Model and (certain sections of) Kant's third critique.

If (as I claim) the Model is implicit in the third critique, then we should expect to find certain confirmation points in Kant's text. Confirmation can take various forms, however. One form it can take is as an explicit statement in the third critique where Kant asserts (or at any rate openly commits himself to) the Model in its entirety. I don't think confirmation of this explicit sort is available, however. (If textual data of this sort were available, I wouldn't be arguing that Kant's Model is implicit!) Another (fairly compelling) form the Model's confirmation may take is that it is in fact *implied* or *required* by what Kant explicitly says. Admittedly, this is not as straightforward as it sounds, however, since what Kant (or anyone) explicitly says -- the actual words used -- can in many cases be variously interpreted. Textual confirmation may also be derived by noting how, under the assumption of the Model's implicitness, we are provided with a useful angle on what Kant's *motivation* is and are consequently able to adopt a general framework in which to grasp the many details of the text, details that might otherwise appear unrelated. Working under this assumption may, in addition, allow us to realize valued maxims of interpretation (the principle of charity, for example) by allowing us to "fill in" certain holes in Kant's argumentation and consequently dismiss certain (perceived) non sequiturs. The basic idea is that Kant's argument (in and across the relevant sections) should appear to

work better when read in light of the Model. Or, at the very least, what Kant says should appear more like a cohesive argument when read in that light.

10.1 A Summary of the Confirmation Points

The aim of this brief section is to specify and summarize a number of confirmation points. Then, in the sections that follow, the aim will be to provide more detailed textual analyses and documentation for each of them. The statement of the confirmation points is as follows:

First, it can observed that an inference is indeed being made (in §65) from a material body's parts and their interrelations to the (idea or conception of) a whole:

> [I]t is required that its parts reciprocally produce each other, as far as both their form and their combination is concerned, and thus produce a whole out of their own causality, the concept of which, conversely, is in turn the cause (in a being that would possess the causality according to concepts appropriate to such a product) of it in accordance with a principle.[317]

Analysis of this (and other supplementary) texts show that an inference is made that is strikingly similar to the one in Kant's Model, namely, inference (A). Since this is the case, the implication is that, in order for concept-users to apply the concept of a natural end, they must make an inference to an idea or conception of a whole on the basis of an acknowledged Datum. Recall that in the Model the datum inference (A) proceeds from is described as a plurality of substances embedded in a relational structure, one explicated in terms of reciprocal interaction. So, if (in §65) concept-users are required to hypothesize some idea or conception of a whole on the basis of a

[317] CPJ, §65, underscoring added.

(organic) body's parts and their interrelations, we could plausibly expect that the concept implicitly supporting such an inference is one under which those parts are being conceptualized in terms essentially the same as the Model's. And this is, I suggest, what we find.

Second, when conceptualized under this implicit concept, the interrelations among a body's parts have to be ones *of a sort* to jointly constitute a *material whole*. So the concept under which a body's parts (and their interrelations) are being conceptualized (in §65) must be one that (in Kant's mind, anyway) expresses the conditions of *wholehood*. It has been shown that Kant defines (or, at any rate, explicates) the ontological concept of a whole in terms of reciprocal interaction. Furthermore, when conceptualized under this implicit concept, the interrelations among a body's parts have to be ones of a sort that force concept-users to acknowledge some prior idea or conception of a whole as the *condition* under which the body's parts can be thought of *as parts*. So the concept implicit in §65 must be one under which a body's parts (and their interrelations) would exhibit (what I have called) *part-on-whole dependency* (whole priority). It has already been shown how (in Kant's mind, anyway) a plurality of things embedded in a relational structure, one that is explicated in terms of reciprocal interaction, can require the presupposition of an idea or conception of a whole. Thus both of these interpretative desiderata can be met if we specify the implicit conceptualization of the body's parts (and their interrelations) within the explanatory framework of Kant's Model, specifically in the context of inference (A).

Third, recall that reason must be able to "cognize the necessity" in all of nature's products if it is to succeed in representing nature as a domain of causal necessity (causal nexus). However, reason has at its disposal only two explanatory norms, one mechanistic (efficient causality), the other teleological (final causality). Natural organisms are a special class of natural product that resists mechanistic explanation; instead they must be explained teleologically, that is, using the concept of a natural end. The concept-users (of §65) are therefore under pressure to apply the concept of a natural end to organisms in order to avert (their) reason from an explanatory crisis. On the hypothesis that Kant's Model is implicit in this section, concept-users (of §65), who are interested in applying the concept of a natural end, are able to do so within the explanatory framework Kant's Model, one in which body's parts and their interrelations may be conceptualized as the *effect* of intentional causation. Within this explanatory framework, the compositional infrastructure [or: causal infrastructure or: causal structure?] of an organic body may be reconceptualized (or reinterpreted) in teleological terms, i.e., as a system of reciprocal means/end relations. Since it is (in Kant's mind, anyway) only within this intentional explanatory framework that a natural organism can be seen to exhibit any causal structure in its internal composition, it is therefore only on the hypothesis of the Model's implicitness that natural organisms could present their internal structures to reason as having any causal necessity for it to cognize. Averting the explanatory crisis (of §65) appears therefore to depend on the interpretative hypothesis that Kant's Model is implicit in that section (and in others related to it).

Fourth, section §65 can be plausibly read as having inherited its account of the internal structure of an (organized) body from Kant's tree analyses in §64. The concept whose application conditions are being determined in §65 is therefore the *same concept* under analysis in §64, namely, the concept of a natural end. In §64, Kant essentially does two things: first he defines the concept of a natural end; second, he attempts to vindicate the *definiens* of the concept of a natural end with an "elucidation," of this concept. Kant's elucidation consists first in taking the class of natural organisms to be *the* object-class that instantiates the concept of a natural end. Next, he proceeds to analyze a representative from this class (a tree) with the aim of showing that it exhibits a causal structure that is the same as (or, at any rate, isomorphic to) the one referred to in the content imputed to the natural end concept. Kant's tree analysis yields the conception of an organism's internal composition as a reciprocal *causal structure*, one that is strikingly similar to the one used in Kant's Model.

10.2 Reciprocal Interaction and the Conditions of Real Wholehood

The concept of reciprocal interaction has a history in Kant's work beginning early in the precritical period in such texts as *New Elucidation* (*New Eluc*), *Only Possible Argument for the Existence of God* (*OPA*), and Kant's *Inaugural Dissertation* (ID). But Kant continues to use this concept in critical period, most notably in the *Critique of Pure Reason* (CPuR), where it is explicitly acknowledged as a "category of the understanding" and, finally, in *Opus Postumum* (OP). Although

it undergoes various formulations and is put to various uses over the course of its long career, at no point does Kant abandon the concept of reciprocal interaction, let alone renounce it.

The construct of reciprocal interaction can present an impressive resume of diverse philosophical appointments in Kant's work, a fact that suggests its theoretic multidimensionality. Over the course of its history in Kant's work, reciprocal interaction (RI) has been used in the following ways: (a) RI is the core of Kant's account of "transeunt causation" (i.e., "the system of physical influence") (*New Eluc, ID*); (b) Given (a) RI is used as a basis on which to propose an alternative to other competing accounts of the metaphysics of causality (e.g., Descartes' occasionalism, Leibniz's preestablished harmony) (*New Eluc, ID*); (c) RI is used (in the first critique) to articulate the conceptual content of "the category of community" (where it appears most prominently in the Metaphysical Deduction, Schematism, and the Third Analogy); (d) RI is used (in the Third Analogy) as a epistemic basis on which to distinguish between representational states that merely reflect the modifications of a cognitive subject's mind from those which have "objective validity;" (e) RI is used (also in the Third Analogy) as a conceptual template for *composition relations*; (f) RI is used (in Kant's lectures on Metaphysics) to define (or at any rate explicate) *the concept of a whole* (as opposed to a mere aggregate); (g) RI is used (in *New Eluc, OPA, ID*) to explain natural phenomena, one which appeals to God's "idea" or a "divine schema."[318]

[318] This list is not intended to be chronological.

In the present context, we are interested in (e). Kant's uses the concept of reciprocal interaction as the basis on which to distinguish between a plurality of substances under two different conceptualizations, one under which it qualifies only as a *mere aggregate*, the other under which it qualifies as a *whole*.[319] According to Kant the difference between a mere aggregate and a whole is that in the latter case (but not in the former) the parts (substances) stand in relations of reciprocal interaction.

> The unity of the manifold is threefold: composite <*compositum*>, quantum, and whole <*totum*>. Composite <*compositum*> is unity insofar as it is composite, whole <*totum*>, when this composition is complete, and quantum means this unity in relation to still other unities. The world is composite <*compositum*> because it has a multitude of substances, and whole <*totum*> because all of these stand in interaction <commercio>.[320]
>
> The connection of substances constitutes what is essential in the concept of the world. Reciprocal interaction is in the whole, and here a substance is acting <*agens*>; and so there must be a reciprocal interaction with every whole.[321]
>
> God and the world therefore constitute no whole, because there is no interaction <*commercium*>, not a reciprocal but rather only a one-sided action; on the other hand the members of a political state constitute a whole because reciprocal interaction is there; but the members do not constitute a whole with the regent because there the action is only one-sided. Accordingly all substances in the world stand in interaction <*commerico*>, and thereby constitute a whole. An aggregate is still not a whole; here only many things <*plura*> that stand in no reciprocal connection are thought.[322]

---

[319] The conceptual template for composition relations is conceptually encoded in the first critique's (schematized) category of community (as discussed in the Third Analogy), where Kant introduces the concept of reciprocal causal interaction.

[320] *LM, Metaphysik Mrongovius*, 29:852, underscoring added.

[321] *LM, Metephysik Herder*, 28:208-9, underscoring added.

[322] *LM, Metaphysik* L_1, 28:196, underscoring added.

> Substances are reckoned to the world, insofar as they stand in real connection <*in nexu reali*> and thus in interaction <*commercio*>. The aggregation of the substances in which there is no community still does not constitute a world. Reciprocal determination, the form of the world as a composite, <*compositi*>, rests on the interaction <*commerico*>.[323]

When concept-users subsume a multitude of material things (a manifold) under the concept of reciprocal interaction, they are working under the regulative principle to represent those things as a plurality of substances that compose a single whole (as opposed to a mere aggregate). So for Kant that *in virtue of* which a material whole is a whole at all (on any scale, whether nano, micro, macro, or cosmic) appears to consist in a plurality of substances forming a certain sort of *relational structure*. More specifically, this relational structure is a *causal structure* in which the relata mutually influence each other.

> The parts of a real composite <*compositi realis*> are in interaction <*commercio*>, and all substances, insofar as they stand in interaction <*commercio*>, constitute a real composite <*compositum reale*>. Interaction <*commercium*> is reciprocal influence <*influxus mutuus*>, for how else is the interaction <*commercium*> of different substances possible than by one determining something in the other, for the substances have an effect in each other, e.g., with a body all parts are in interaction <*commercio*>; what is not in interaction <*commercio*> does not belong to it. [Passage continues as: The connection of the highest cause with its effects <*causatis*> connects nothing, is no interaction <*commercium*>. The cause accordingly does not belong to the effects <*causatis*>.[324]

Notice that Kant says, "what is not in interaction <*commercio*> does not belong to it [i.e., the composite or whole]." A key idea here is that something can *count* as a part

---

[323] Ibid., 28:196, underscoring added.

[324] *LM,*

of a given whole only if it stands in certain causal relations to other things. Kant seems to be saying that for something to count as a part, it has to be embedded in a causally interpreted relational structure.

> The connection <*nexus*> is ideal if I merely think the substances together, and real if the substances actually stand in interaction <*commercio*>. The form of the world is a real connection <*nexus realis*> because it is a real whole <*totum reale*>. For if we have a multitude of substances, then these must also stand together in connection, otherwise they would be isolated. Isolated substances, however, never constitute a whole <*totum*>. If the substances are together, thus a whole <*totum*>, then they must also be a real whole <*totum reale*>. For were they ideal, then surely they could be represented in thought as a whole <*totum*>, or the representations of them would constitute a whole <*totum*>; but things in themselves would still not constitute a whole on this account.[325]

The key idea to be extracted from it here is Kant's claim that the difference between a plurality of stand-alone substances that *do not* compose a whole versus a plurality of substances that *do* is this: wholes are cases where a plurality of substances are interconnected; and here we see Kant explicitly conceptualizing that whole-constituting interconnection in terms reciprocal interaction. Thus according to Kant a plurality of substances constitutes a whole (as opposed to a mere aggregate) because they are embedded in a two-way causal structure.

One of my major interpretative claims is that Kant is (in §65) appealing to an implicit conceptualization of a set of parts and their interrelations. If concept-users are going to be entitled to apply the concept of a natural end to a material body, its parts (and their interrelations) must conform to this implicit conceptualization. As an interpretative hypothesis, I suggested we should specify this implicit

[325] LM, Metaphysik Mrongovius, 29:851.

conceptualization as the concept of reciprocal interaction. Additionally, I said that the conceptualization of these interrelations must meet a number of requirements. One of them was that because the natural end concept is intended for use in the explanation of natural organisms (which are material wholes of a special sort) the conceptualization of the parts' interrelations has to be such that when they obtain, a whole is thereby produced. We have just seen that (in Kant's mind, anyway) the concept of reciprocal interaction expresses the conditions of real wholehood. My interpretative hypothesis appears therefore to meet the wholehood requirement. Further confirmation on this point is, however, to be derived below.

10.3 Agency *In Situ*: Situated Embodied Agency

As remarked, reciprocal interaction is the conceptual substrate (or, at any rate, what conceptually underwrites) the representation of space. Encoded in the category of community, reciprocal interaction constitutes part of the mind's deep-structure in that it specifically determines the representation of structured wholes, ones whose parts are to be thought of as synchronic (existing concurrently). The aim of the present section is to present some textual support for the idea that substances are (for Kant) conceived on the model of "nodes" within a causal structure, namely, of reciprocal interaction. The basic idea is that spatial substances are individuated *in situ* and this takes the form of there being individual interactants among others (in space).

Is embeddedness in a whole a condition of substancehood? As remarked, Kant's view of substances is that they are, essentially, possessors (and exercisers) of *causal powers*.[326]

> We can never be merely passive, but rather every passion is at the same time action. The possibility of acting is [a] faculty <*facultas*>, and of suffering receptivity <*receptivitas*>. The latter always presupposes the former. Every substance is self-active, otherwise it could not be a substance; it can be suffering in one relation <*respectu*>, but can also be active in the same. A merely suffering substance is a contradiction <*contradictio*>; otherwise it could not have any accidents.[327]

Kant's says that a substance is, essentially, an active entity, one that exerts an "influence" in an environment "outside itself:"

> Transeunt action <*actio traniens*>, when I make something actually outside me, is twofold: the action <*actio*> (actuare means to make actual) of a substance or accident outside itself <*substantiae vel accidentia extra se*> -- the first, when I make actual a substance actually outside me, is called creation <*creatio*> -- if I make actual accidents outside of me, then if it is determined, it is called influence <*influxus*>.[328]

Elsewhere Kant is on record as saying that it is within a common whole that a plurality of substance-parts "reciprocally determine each other."

> The world is a whole of substances, which are in reciprocal connection, and thereby constitute a unity, a whole; a whole of contingent substances, in that they reciprocally determine each other, thus that one limits the other.[329]

---

[326] See Eric Watkins' *Kant and the Metaphysics of Causality* (Cambridge University Press, 2005) for an historically sensitive argument for this claim. On my view, the relational structure (explicated in terms of reciprocal interaction) belongs to Kant's "metaphysics of causality" regarding finite substances.

[327] *LM, Metaphysik Mrongovius*, 29:823.

[328] *LM*,

[329] LM, Metaphysik Herder, 28:282.

Taking this text with the one preceding it, we can view the one whole jointly composed by the multitude of substance-parts as an one common environment in which one substance can be "outside" another substance; yet, because every substance-part belongs to the *same* whole, each one is able to exercise its own distinctive causal capacities in relation to other substances. Elsewhere Kant conceptualizes the substance-parts jointly constituting a single whole as *causal agents*.

> The connection of substances constitutes what is essential in the concept of the world. Reciprocal interaction is in the whole, and here a substance is acting <*agens*>; and so there must be a reciprocal interaction with every whole.[330]

Influence -- the power one substance has to determine another substance outside itself -- appears to be something a substance can have by being a member in the right sort of causal structure, one in which it is a part of a larger structured whole. Admittedly these don't show that embeddedness is a necessary condition of causal efficacy; yet neither do they disconfirm the thesis that embeddedness *is* a condition of substance's causal efficacy. This brief review of selected texts isn't intended to argue the interpretative issue conclusively. Elsewhere considerable textual evidence has already been given to show (or, at any rate, plausibly suggest) that Kant

[330] *LM, Metephysik Herder,* 28:208-09.

conceptualizes substances generally on the model of agents and that he views the possession and exercise of a (finite) substance's causal powers to depend on its embeddedness in a relational structure with other substances.[331]

Under my interpretation, the causal structure of a real whole (explicated under the model of interaction) is indeed the metaphysical condition under which an entity can meet the conditions of causal agency (thus also substancehood). The model of interaction (on my view) requires a substance concept according to which an individual substance's causal agency is interdependent on the complementary causal powers of other substances. The aim of the next section is to locate additional text in the third critique further confirming Kant's use (implicit or explicit) of the model of interaction.

10.4 Natural Organisms Model Interactive Structure *In Propria Persona*

In section §64, Kant defines (or, at any rate, illustrates) the concept of a *natural end* by empirical example, that is, by considering real natural phenomena that (he thinks, anyway) fall into the extensional class of this concept. (The definition of 'natural end' is stated below.) Kant appears to be trying to legitimatize the intensional content he has imputed to the concept of a natural end by considering three tree examples. In doing so, the content he assigns to this concept is supposed to be "exhibited" in these examples. But these examples can be in a position to *semantically anchor* the concept of a natural end only if Kant's *de re* analyses of a

[331] For details, see my reconstruction of Kant's model of interaction in Chapters 7 and 8.

tree yield correspondingly legitimate semantic facts about the content of 'tree'. In other words, if (under Kant's analyses) trees are the sort of thing he says—if trees do in fact model a causal structure of the sort referred to by the concept of a natural end -- then the implication seems to be (in Kant's mind, anyway) that the *concept* of a tree must have a content that is subsumable to the one assigned to the concept of a natural end, thereby securing for the latter an empirically valid object-class. In that case the concept of a natural end would be empirically applicable because its definiens would have obtained empirical semantic anchoring *indirectly* by means of Kant's tree analyses.

Suppose Kant's tree analyses are correct. Concept-users intending to empirically apply the concept of a tree would be constrained by the conceptual requirements imposed by the concept of a natural end; which is to say that *what* they were allowed to cognitively recognize as the referent of 'tree' would be partially determined by the concept of a natural end. Concept-users would therefore be under the requirement to conceptualize trees as instances (or individual modelers) of a causal structure of the type referred to in the natural end concept. It should be noted that because trees are (in Kant's mind) *representatives* of a larger class of natural phenomena, namely, "organized beings," Kant's tree analyses are intended to apply generally to this entire object-class. If Kant's tree analyses are generalizable, then the causal structure trees exhibit would therefore be true of every kind of natural organism.

Kant's presents three short discussions about trees, and it is clear that he intends each of the three tree examples to be instantiations of the concept of a natural end as defined below:

NE: x is a natural end iff x is both a cause and effect of itself.

In §64, Kant presents three tree discussions. They are as follows.

(1) *Intraspecific Biological Self-replication*. Members of a given species of organism are capable of reproduction (within the species); they can make *copies* of themselves. Here the substitution instance of x is a natural organism of kind K. Ks can breed other Ks. One or more individuals of kind K can be the offspring (effect) of other individuals, say, parents of kind K* (the cause). And since, in the case of natural organisms, the offspring produced are generally entities *of the same sort* as the parents, K = K*. So this is supposed to be a case where the *kind* (of organism) is reproducing itself and so is both cause and effect.

(2) *Ontogenetic Development*. Individual members of an organic natural kind, such as a tree, are capable of individual growth or self-development. A tree can causally generate parts of itself: an acorn, under the right enabling conditions, will develop into an oak tree.

(3) *Hybrid Example*. Here a tree is considered as a whole-organism instantiating a reciprocal causal structure between it and its constituent parts. This example seems to incorporate the first two. In scholastic terms, the first case seems to be a case of "transeunt causation," while the second case seems to be a case of "immanent causation." Transeunt causation is causation between two or more individual

substances (of the same kind or not); however, immanent causation is causation that occurs in one and the same substance.

It appears that in Kant's first example, (i.e., biological reproduction) one substance (of kind K) is producing another individual substance (of the same value of K), in which case you have intersubstantial causation; in Kant's second example, you have one and the same individual substance causally bringing about its own individual biological development (i.e., growth), which makes it a case of intrasubstantial (or immanent) causation. However, in §64's third tree example, both *inter*substantial and *intra*substantial causation are incorporated into a single conceptualization of the tree as an organic whole. It is a semantic fact about 'trees' that we recognize trees as organic wholes, and that we recognize *a* tree (of one species or other) as both a composite entity and a singular individual. In his third example, Kant seems to be conceptualizing the tree's compositional structure in the same (or, at any rate, similar) terms in which he conceptualizes a world-whole, namely, as reciprocal causal structure. It would therefore appear that natural organisms model interactive structure *in propria persona*.

My present focus is on (3). In Kant's third example the tree is conceptualized as a whole-organism made up of parts. As we saw earlier, Kant uses the concept of reciprocal interaction to explicate the ontological concept of a whole. How, then, is the tree to be conceptualized as a whole-organism unless under the concept of reciprocal interaction? For a tree to be possible as a whole-organism its parts must therefore be conceptualized as members embedded in a reciprocal causal structure,

one explicated under the model of interaction. If the tree's parts are to be conceptualized in this way, wouldn't we also have to conceptualize each of its parts as a substance in its own right? For under the model of interaction, the interactants *are* substances (possessing complementary causal powers). So we should expect to find some emphasis in the text on the individual substancehood of the tree's parts and their causal relations to each other. And this is, I suggest, what we find in §64.

Here Kant states:

> [O]ne part of this creature also generates itself in such a way that the preservation of the one is reciprocally dependent on the preservation of the other. An eye from the leaf of one tree grafted into the twig of another brings forth a growth of its own kind in an alien stock, and similarly a scion attached to another trunk. Hence one can regard every twig or leaf of one tree as merely grafted or inoculated into it, hence as a tree existing in itself, which only depends on the other and nourishes itself parasitically. At the same time, the leaves are certainly products of the tree, yet they preserve it in turn, for repeated defoliation would kill it, and its growth depends upon their effect on the stem.[332]

Without the twig and the leaf, the tree could not survive; so the twig and the leaf sustain the tree's existence. Here the twig and the leaf act as cause and the tree is the effect. Alternately, a tree, considered as a whole sustains the existence of the leaf and twig. Thus, in nourishing the twig and the leaf a tree is the effect of itself. But this follows only on condition that the twig and the leaf are parts of the same individual tree. (See diagram below.)

---

[332] *CPJ*, §64, 5:372.

Diagram 10.4: The Tree's Reciprocal Causal Structure

Cause	Effect
1) twig/leaf (parts)	tree (whole)
2) tree (whole)	twig/leaf (parts)
3) twig (part)	leaf (part)

The causal relations among (1)-(3) appear to be reciprocal along three different dimensions. The parts appear to causally determine the whole; the whole, alternately, appears to determine the parts. Finally, (3) is a case in which the parts themselves are causally interacting with other parts.

Notice that Kant seems to be at pains to point out that every twig or leaf of a tree can be regarded as a tree existing in itself (as a potential tree-to-be or a tree in its own right):

> Hence one can regard every twig or leaf of one tree as merely grafted or inoculated into it, hence as a tree existing in itself, which only depends on the other and nourishes itself parasitically.[333]

Here I read Kant as stressing that every twig or leaf is potentially an individual tree in its own right (in spite of its parasitic relation to its host tree). Kant appears to be emphasizing not the twig's ontological derivativeness but rather its (potential) *substancehood*. But why would Kant want to do this? Shouldn't Kant be stressing that the twig and the leaf are derivative entities whose existence depends on the tree of which they are parts? Because it is only *as parts* (of the same whole-tree) that they can stand in a causal relation to it. Or shouldn't Kant be emphasizing that the whole-tree, as a material composite, is itself an ontologically derivative entity whose

[333] *CPJ*, §64, underscoring added.

existence is dependent on its parts. If so, why instead is Kant emphasizing (as he appears to be doing) the twig and leaf's individual substancehood?

In the immediate context (of §64) there is no answer to this question. In view of this fact, we seem to come up short, since (in §64) Kant has not given a clear statement of (2). That is, Kant hasn't clearly articulated how a tree's relation to its parts could be viewed as a causal relation. But that is what he must show (of his third Hybrid example) if he intends to assert that it instantiates the analysans of 'natural end': x is a natural end iff x is both a cause and an effect of itself. Kant must show how the whole-tree can be the cause of the twig and the leaf (and in what sense it is a cause). But if in addition to regarding the tree as a (material) substance, Kant also regards "every twig and leaf" as individual substances in their own right, this implies that his conceptualization of a whole-organism is one according to which it is a single substance that is constituted by *a plurality of individual substances*.

To summarize the results obtained so far, the tree (in §64) is being conceptualized as *all* of the following:

(a) The tree is an individual material substance in its own right; therefore:

(b) The tree is both a *singular individual* and a *composite entity*; it is one *whole-object* made up of a plurality of parts: therefore:

(c) Under Kant's analysis of the ontological concept of a whole, the tree's parts must *themselves* be substances in their own right, ones embedded in a reciprocal causal structure.

So the situation appears to be this: the tree can be ontologically decomposed into a plurality of constituents, each of which is a substance (at least potentially) in its own right. But the tree is not merely the *sum* of those parts; it is *more than* the sum, since the tree itself counts as one substance in its own right (existing concurrently and in connection with these other substances which constitute it). Metaphysically, there is the tree *plus* the plurality of different kinds of substances that constitute it. These substance-parts can be acknowledged along side the tree in the sense of being countable substances in their own right. Finally, notice that all of these other substances exist *in* the tree (as its parts); they stand in a composition-relation to the tree. But for that to be so, the causal structure in which they are embedded would, I suggest, have to be conceptualized under the model of interaction. For, as we have seen, it is the model of interaction that provides the terms in which Kant explicates the ontological concept of a whole.

10.5 Analysis of Kant's Definition of the Concept of a Natural End

As remarked, Kant defines (or, at any rate, explicates) the concept of a natural end as follows:

NE: x is a natural end iff x is both the cause and effect of itself.

How, in what terms, should Kant's definition be understood? For starters, we might keep in mind that it is the class of natural organisms that the concept of a natural end (and thus its definiens) is intended to apply. Take a monkey, for instance. Since it is a natural organism, a monkey therefore counts as a natural end. Let x = a monkey.

Then a monkey is a natural end iff the monkey is both the cause and the effect of itself. What are we asserting when we assert that a monkey is both the cause and effect of itself? I consider two possibilities.

First, the monkey's self-causation might be thought to consist (absurdly) in its being a self-assembler. That is, the monkey brought itself into being by putting itself together (rather like Humpty Dumpty). The monkey is a material composite, composed of physical parts. These physical constituters were put together by the monkey himself. Problem is, under a Kantian (Second Analogy) model of causality, all causes must temporally precede their effects. That being so, in order for the monkey to bring about its own physical constitution, part-by-part, his existence would have had to precede the conditions under which he, as a physical being, is possible. As a material composite, a monkey's existence is ontologically derivative of the existence of its parts; it therefore could not have been around to execute (let alone engineer) its own construction prior to their existence.

If the monkey's literal self-assembly is absurd, what alternative content could be imputed to Kant's definition of a natural end, one that makes some sense out of its claim that the monkey is both cause and effect of itself? We might begin by acknowledging that there is more than one way to think about a monkey. Let us distinguish between two ways of thinking about monkeys, generally. We could refer to a monkey under the description of its internal composition (monkey guts) or we could refer to the monkey as a singular individual, a substance in its own right (as an

entity that swings in trees, eats bananas, etc.). There are therefore two nonsynonymous (semantic) contents concerning the monkey:

(1) one referring to the monkey (i.e., the whole-organism)

(2) one referring to a plurality of substance-parts (embedded in a causal structure).

Suppose we were to use these two nonsynonymous (but co-referring) monkey-descriptions as the terms in which to explicate Kant's definition of a natural end. Then we may be able to make sense of how the monkey may be *both* the cause and the effect itself. We just saw how because its existence is a physical one, the whole-monkey, as a material composite, cannot exist independently of its physical constituters. The monkey, considered as a material whole, is therefore the *effect* of a plurality of parts. Makes sense. But how is the monkey also a cause of itself? The whole-monkey is the *cause* of itself in the sense that it is that in virtue of which a set of parts may be monkey-constituting. (See Diagram below.)

Diagram 10.5a:

Cause	Effect	Causality Type	Faculty Affiliate
Whole-monkey	monkey parts	Final (Teleological)	Reason
Monkey composition	whole-monkey	Efficient (Mechanical)	Understanding

It is in virtue of the monkey (considered as a whole-organism) that there is, ontologically, anything (of a monkey-ish sort) for a set of physical parts *to* constitute. The whole-monkey is the prior condition under which a plurality of parts can be conceptualized as the parts *of a monkey* (as opposed to some other type of organism). Referring to a plurality of entities as monkey guts requires, however, that concept-

users first understand what a monkey *is*. A monkey prescribes itself as the final end (or target) of composition.

Under Kant's conception of substance the identity of a substance depends largely on what it can *do*, on what its *causal powers* are.[334] Since the internal composition of a whole-organism must be conceptualized under the model of interaction, its parts must be conceptualized as substances in their own right, embedded in a reciprocal causal structure. Identifying and individuating the multitude of substances contained in a whole-organism therefore depends largely on knowing what *they* can do. But knowing what the multitude of substance-parts contained in an organism can do will require concept-users to know *a priori* (= in advance) what sort of whole-organism their interrelated causal powers *are supposed to make possible*. Concept-users must therefore have some idea of what sort of whole-organism it is that these substance-parts are supposed constitute before they can cognitively grasp what these entities are.

But that is not all they need. Concept-users need, in addition, to have some idea of what this *whole-organism's* causal powers are. Take our monkey. A monkey's causal powers are to be conceptually explicated by what it can do, by what effects it can produce, in a natural environment external to the region of space enclosed within its physical body. The region of space enclosed within its body contains the (subpersonal) conditions under which these externally explicated monkey powers are possible at all. It is therefore in reference to these monkey-

[334] See Eric Watkin's *Kant and the Metaphysics of Causality* (Cambridge University Press, 2005).

defining powers that a multitude of (very unmonkeylike) entities (monkey guts) must be understood. Concept-users are therefore required to have some prior conception of what causal powers are definitive of a monkey before they can be in a position to identify and individuate the substance-parts that make those causal powers possible.

Suppose we grant that we must (and do) have a conception of the whole-monkey, one whose empirical semantic content is nonsynonymous with the conception of monkey composition (monkey guts). What conceptually convincing links, if any, unite (1) and (2) above? We might ask how (in Kant's mind, anyway) these two nonsynonymous contents can be explanatorily related. That is we might ask how the conception of the whole-monkey is in a position to causally determine a set of parts so as to be monkey-constituting. Within what conceptual framework may a multitude of (very unmonkeylike) entities causally to add up to, make possible, a monkey? And what makes it possible for the whole-monkey to *cause* all of its physical constituters to be the parts *of a monkey*?

Kant's answer is that concept-users have to view the whole-monkey as the effect, or end-product, of intentional causation. As we saw above, the individual monkey isn't capable of any literal self-assembly (not from scratch, at any rate). So if the whole-monkey is going to exert any causal efficacy over its own constitution it must do so under an "ideal" conceptualization. Concept-users would therefore be required to hypothesize an ideal counterpart for the whole-monkey, that is, an *idea* or *conception* of it and, in addition, to view it as embedded within the larger explanatory framework of Kant's Model. What this means is that the whole-monkey must be

viewed as an "end," indeed as a *final* end -- as the target (or scopus) of composition relative to which a multitude of subsidiary means were engineered (and executed) for the sake of realizing that final end. Under the "ideal" conceptualization of the whole-monkey (as a final end) concept-users are therefore able to view a multitude of very unmonkeylike entities (monkey guts) as the means taken to fulfill the end of making a whole-monkey. Considered as the effect of intentional causation, the whole-monkey's internal composition could therefore be viewed as the effect of (the idea of) the whole-monkey.

It therefore appears we have come up with an alternative content to impute to Kant's definition of a natural end. The monkey can be both the cause and effect of itself in the following sense. The whole-monkey, being a material composite, cannot exist independently of its physical parts; rather its existence depends on that of its physical constituters. So in this sense the monkey is the mereological effect of its parts. But the direction of causation is not one-way, however. For *that* those physical constituters are monkey (as opposed to nonmonkey)-constituting is owing to the fact that they were created under the guidance of an idea or conception of the whole-monkey. In view of this, the actual parts would be determined by the whole-monkey in that they owe their very identities as substance-parts to intentional processes guided by a prior idea of it. Notice, finally, that accepting this construal of Kant's definition of a natural end (as stated in §64) depends, however, on accepting the hypothesis that Kant's explanatory Model is implicit in that section. The whole-monkey can double as both the cause and the effect -- the *explanans* and the

explanandum -- within the explanatory structure of Kant's Model because, being of the intentional type, the Model allows concept-users to view the whole-monkey under an "ideal" (here meaning 'mental') conceptualization, where as such it is able to function as the prior determinant of a monkey's internal composition.

In section §77, there is some fairly strong textual support for thinking that (what I'm calling) Kant's explanatory Model is operative in the third critique:

> In accordance with the constitution of our understanding, by contrast, a real whole of nature is to be regarded as the effect of the concurrent moving forces of the parts. Thus if we would not represent the possibility of the whole as depending upon the parts, as is appropriate for our discursive understanding, but would rather, after the model of the intuitive (*archetypical*) understanding, represent the possibility of the parts (as far as their constitution and their combination is concerned) as depending on the whole, then given the very same special characteristic of our understanding [= discursivity], this cannot come about by the whole being the ground of the possibility of the connection of the parts (which would be a contradiction in the discursive kind of cognition), <u>but only by the representation of a whole containing the ground of the possibility of its form and of the connection of parts that belong to that. But now since the whole would in that case be an effect (product) the representation of which would be regarded as the cause of its possibility, but the product of a cause whose determining ground is merely the representation of its effect is called an end</u>, it follows that it is merely a consequence of the particular constitution of our understanding that we represent products of nature as possible only in accordance with another kind of causality than that of the natural laws of matter, namely only in accordance with that of ends and final causes, and that this principle does not pertain to the possibility of such things themselves (even considered as phenomena) in accordance with this sort of generation, but pertains only to the judging of them that is possible for our understanding.[335]

Various points to be made concerning this dense text. For present purposes notice that, in addition to the third critique texts already cited, the underscored portion of this §77 text indicates that an hypothesis is being made that is strikingly similar to

[335] *CPJ*, §77, 5:408, underscoring added.

what I have referred to as inference (A) in Kant's explanatory Model, the inference to an ideal counterpart. Here the understanding appears to impose constraints on how a material whole can be *explained*; these constraints are essentially the ones presented in the Axioms of Intuition; the idea is that all material composites are mathematizable and that all material wholes are dependent on the existence of their countable parts (this is what makes it possible for a material whole to be a "discrete quantum.")

Diagram 10.5b:

Faculty Affiliate	Mode of Construction	Type Of Whole
Understanding	Parts-to-whole	Aggregates (Mereological Sums)
Reason	Whole-to-parts	Systemic Wholes (Natural Systems)

The construction of an material whole always consists generally in endowing it with a part structure; furthermore this merelogically-conceived sort of cognitive construction can proceed in either of two distinct directions: it can proceed from *the parts up* -- that is, from the parts *to* the concrete constructed whole, in which case you have a mere aggregation of parts (as opposed to a system); or it can proceed *from* the whole downwards to a determination (specification) of the parts. The former, a condition under which phenomenal objects are mathematizable, is in fact an a priori rule derived from the Axioms of Intuition (and is valid for all categorially-determined constructions performed by the understanding), whereas the latter procedure (which represents what I call part-on-whole dependency) is distinctive of *intentional causation*, (and is affiliated with reason, *not* with the understanding).

Under the latter procedure, the production of a set of parts is guided by a prior idea or conception of the whole to be produced. If the object being cognitively

constructed is understood to be *guided by* a prior conception of *what it is supposed to be* (even where this is grasped in hyperabstract terms), then the interrelations among the whole's parts can (in this practical context) be viewed to reflect a *means-end structure* (in light of the higher-order end targeted for actualization).

Individual organisms are *systemic wholes*, whose parts are united under certain functional relationships all of which subserve a single (apical) system-goal (generally, embodied by the whole-organism). As functional systems, organisms embody (in propria persona) interactive causal structure. As causal structures, they represent a *hybrid* of two types of causality -- mechanical (physical efficient) causality and teleological (final causality). Organisms consist of a multitude of parts all of which stand in mechanical (= efficient) causal relations; as a functional system, however, organisms are conceptualized as a set of parts integrated under a shared system-goal.

As remarked, each of these two types of causality is affiliated with different faculties of cognition; efficient causality is affiliated with the understanding; teleological causality is affiliated with reason. What's the relation between the two types of explanatory norm? In the third critique Kant says (in §80) that mechanical explications (MEs) are to be "subordinate" to teleological explanations (TEs). When conceptualized as a *natural end*, the whole-organism (a monkey, say) is viewed as the *end* for the sake of whose composition a multitude of (very unmonkeylike) entities are supposed to enter into interactive causal relations. Thus an organism, when conceptualized as a natural end, *prescribes itself* as a target (or scopus) of material

composition. As a natural end, the whole-monkey *directs* efficient causal relations so as to ensure the mechanical success (or realization) of its own composition.

10.6 Hypothesizing a Prior Conception Of the Whole From Interactive Structure

In the preceding chapter I claimed that the concept of a *natural end* has been engineered so that concept-users' empirical application of it had to meet two conditions. The first condition contained two subrequirements, one of which was that the natural product had to exhibit part-on-whole dependency (or whole priority). (The second subrequirement has not yet been discussed.) I said, in addition, that any natural product that could possibly exhibit part-on-whole dependency would have to be one that met a second condition, namely, that the interrelations among a set of parts have to be ones *of a sort* to require concept-users to hypothesize some prior idea or conception of a whole as the condition under which those interrelations can be thought (cognized, made intelligible) at all.

But under what conceptualization of a body's parts and their interrelations would concept-users be induced to hypothesize a idea or conception of a whole?

Neither in §65 nor in any other section of the Analytic of Teleological Judgment does Kant explicitly identify this conceptualization. But, as observed earlier, Kant's apparent silence (in these texts, anyway) on the issue of what this key conceptualization is need not prevent us from specifying it ourselves. Rather my suggestion was that with the use of Kant-internal materials we can plausibly specify this key conceptualization of a body's parts and their interrelations as the concept of

reciprocal interaction and view the latter concept as one whose implementation is implicit in §65 (and related sections). The aim now is therefore to provide some textual support for this suggestion. For starters, we might approach the task of confirming the concept of interaction's implicitness (in §65) by stipulating what counts as confirmation. Suppose we could derive certain requirements from Kant's texts, ones that require this implicit conceptualization of a body's parts and their interrelations to do a particular job. Then if it could be shown (or, at any rate, plausibly suggested) that the model of interaction can perform these jobs, we could take this as (at least partial) confirmation of its implicit implementation in the third critique.

So far, the job assigned to this key conceptualization is that it be one under which a body's internal structure is represented in a way so as to require concept-users to hypothesize an idea or conception of a whole as the prior condition of the body's composition. Kant says (in §65) that in order to represent a material body under the concept of a natural end, the body's parts and their interrelations stand under a certain requirement:

> [I]t is required that its parts reciprocally produce each other, as far as both their form and their combination is concerned, and thus produce a whole out of their own causality, the concept of which, conversely, is in turn the cause (in a being that would possess the causality according to concepts appropriate to such a product) of it in accordance with a principle.[336]
>
> For a body, therefore, which is to be judged as a natural end in itself and in accordance with its internal possibility, it is required that its parts reciprocally produce each other, as far as both their form and their combination is concerned, and thus produce a whole out of their own causality, the concept

[336] *CPJ*, §65.

> of which [=of the whole], conversely, is in turn the cause (in a being that would possess the causality according to concepts appropriate to such a product) of it in accordance with a principle; consequently the connection of efficient causes could at the same time be judged as an effect through final causes.[337]

These are highly compressed Kantian texts. Textual analysis, however, yields four key ideas and an implicit structure in which they are united. The four key ideas are as follows. First, there is the idea, already mentioned above, that the body's parts are to stand in reciprocal causal relations. Second, there's the idea that these same parts "thus produce a whole out of their own causality." Notice that this second idea coincides with the second component of the natural end concept, that in order for some material body to be represented as a *natural* end, it must be represented as an end *minus* "the causality of the concepts of a rational being outside it," i.e., it must not be represented as a product of art. Third, there is Kant's claim that the interrelations of a body's parts are a sort to induce concept-users to hypothesize an *idea or conception* of the whole (what I have referred to as an ideal counterpart). Fourth, this ideal counterpart "is in turn the cause (in a being that would possess the causality according to concepts appropriate to such a product) of it in accordance with a principle."

Immediately following these texts (cited above) Kant writes:

> In such a product of nature each part is conceived as if it exists only through all the others, thus as if existing for the sake of the others and on account of the whole, i.e., as an instrument (organ), which is, however, not sufficient (for it could also be an instrument of art, and thus represented as possible at all only as an end); rather it must be thought of as an organ that produces the

[337] *CPJ*, §65, 5:373-4.

> other parts (consequently each produces the others reciprocally), which cannot be the case in any instrument of art, but only of nature, which provides all the matter for instruments (even those of art): only then and on that account can such a product, as an organized and self-organizing being, be called a natural end.[338]

And in the very next section (§66) Kant uses this teleological conceptualization of a body's composition to define (or, at any rate, explicate) the concept of an 'organized product of nature':

> **An organized product of nature is that in which everything is an end and reciprocally a means as well**.[339]

Kant seems (rather abruptly) to *re*describe a body's causal infrastructure in teleological terms, as a system of reciprocal means/end relations.[340] Here it's interesting to note that, in §64, where Kant's aim is to define (or, at any rate, illustrate) the concept of a natural end by the use of his tree example, there is no *explicit* conceptualization of an organic body's (or the tree's) internal structure in teleological terms. This contributes to the abruptness (in §65) of Kant's redescription of an organic body's internal structure as a system of means/end relations.

Above I said that in addition to these four ideas, there is an implicit structure

---

[338] Ibid., §65, 5:374.

[339] Ibid., §66.

[340] In *OP*, Kant is somewhat more explicit: "For, the possibility of an organic body (that is, a body each of whose parts is there for the sake of the other, or which is so formed that the possibility of the parts and the form of their inner relations emerge only from its concept—a body which is thus only possible through purposes, which presupposes an immaterial principle which forms this substance either mediately or immediately) produces a teleological principle of the continuation of kinds and individuals [which] can be thought as all-governing and everlasting with respect to species [*breaks off*]" (*OP*, underscoring added).

that unites them. It is this: these items are united within the structure of a intentional explanation. I submit that it is within the explanatory framework of Kant's Model that these key components derive their inferential linkages:

(1) It is because of the parts' embeddedness in two-way causal structure that a material whole is thereby generated;

(2) The material whole which is thus generated is one that the parts produce "out of their own causality," thus implying that the whole generated by the parts is in some sense internally (not externally) generated;

(3) The material whole that is thus (internally) generated appears to induce concept-users into hypothesizing an ideal counterpart for it.

(4) This ideal counterpart is, in turn, supposed to *explain* the material whole's internal composition. It is in light of this idea or conception of a whole that a body's parts and their interrelations are to be reconceptualized (in teleological terms) as a *system* of mean/end relations.

I want to make a number of observations in reference to (1)-(4). First, notice that it is largely *because of* (1) that concept-users are lead (in (3)) to posit an ideal conception in the first place. A lot appears therefore to hang on the inference from (1) to (3). As remarked, the conceptualization of a body's parts and their interrelations must be one requiring the hypothesizing of an idea or conception of a whole, and it appears to be a causal structure *of a two-way sort* that (in Kant's mind, anyway) is capable of requiring concept-users to do this.

But what, exactly, is the inference? Appealing *only* to the §65 text, Kant seems to be arguing something along the following lines:

<u>There exists a plurality of substances embedded in a (two-way) causal structure.</u>
There must be some *idea* or *conception* of a whole in virtue of which they do so.

By itself, this inference is invalid. Two questions arise here. We might ask, first, why a plurality of substances embedded in a (two-way) causal structure would induce concept-users to *hypothesize* anything at all, in this case an idea or conception of a whole as a condition under which these entities can interact at all? Second, we might ask why it is a prior idea or conception *of a whole* that concept-users are required to hypothesize here. Since the second question is fairly easy, I'll answer it first. In order for this inference to made at all, this two-way causal structure (here limiting myself to this description) must perform a second job: it must answer to the conditions of wholehood, meaning that the interrelations among a body's parts have to be such as *to compose a whole*; otherwise, how could it be necessary for concept-users to hypothesize an idea or conception *of a whole*? In the preceding section, we confirmed that Kant uses the concept of a two-way causal structure, namely that of reciprocal interaction, to explicate the ontological concept of a whole.

Now I return to the first question just posed. On the assumption that Kant intends the inference above to be valid, we must therefore assume under the principle of charity that there are other operative premises that are *implicit* in the present context. As it stands, we need some reason why concept-users are required to hypothesize an ideal counterpart in the first place.

In a preceding chapter it was shown how, under the model of interaction, a plurality of substance could be the basis on which to hypothesize an idea or conception of a whole. Notice that the inference above resembles (what I have called) inference (A) in Kant's explanatory Model. From within the explanatory framework of Kant's Model, concept-users have the model of interaction at their disposal, one that (in Kant's mind, anyway) induces them to hypothesize an *idea or conception* of a whole as the prior condition under which a plurality of substances can causally interact. I'm suggesting is that if we suppose that Kant's explanatory Model is implicit (in §65), then we can also suppose that his model of interaction is likewise implicit. When embedded within the framework of Kant's Model, the inference above would appear as follows:

There exists a plurality of substances embedded in a (two-way) causal structure.
(Implicit application of the model of interaction; therefore:
(Implicit assumption of Kant's larger explanatory Model.)
There must be some prior *idea* or *conception* of a whole in virtue of which they do so.

Under the suggested hypothesis, we could at least view the concept-users (of §65), who are interested in empirically applying the concept of a natural end, to be making an inference of the above (assisted) sort. We would therefore be able to make more sense of Kant's claims in that section (than could otherwise be made of them) even if were not granted that his nonsequiter is entirely addressed under this interpretative hypothesis.

Notice that (in (4)) the reconceptualization of a body's parts and their interrelations would be one under which those parts are necessarily unified within a system of reciprocal means/end relations. Indeed, since a plurality of parts are

intentionally *made* under the guidance of a normative conception of the whole (an ideal counterpart), this conception determines what sorts of parts they are *supposed to be*. The body's parts will therefore be ones whose identity and individuation is possible only by reference to that prior conception. The whole produced under the explanation given in (4) would therefore exhibit *part-on-whole dependency* (whole priority). When a set of parts (and their interrelations) are said to be part-on-whole dependent, those parts are thought of as *conceptually dependent* on some prior idea of a whole as the condition under which they can be identified and individuated as the parts they are.

Recall (from the preceding chapter) that reason faces an explanatory crisis concerning natural organisms. Reason must "cognize the necessity" in all of nature's products and the only way it can meet this representational imperative in the case of natural organisms is to explain these phenomena in teleological terms, i.e., as the effects of intentional production. But in order to explain these natural phenomena in teleological terms, concept-users must be able to apply the concept of a natural end. Concept-users are entitled to apply this concept, however, only to natural phenomena that exhibit "objective purposiveness" (meaning: 'appearing to be made-on-purpose' or 'designed'). As remarked in the preceding chapter, "objective purposiveness" is, on my view, to be explicated in terms of part-on-whole dependency. Moreover, part-on-whole dependency was acknowledged as one (of two) major intensional contents engineered for the natural end concept: to view x as a natural end is to view x as a product of intentional production (on "remote analogy" with products of art). (In the

final section of this chapter, we shall see how the definition given to the concept of a natural end (in §64) is possible only within the larger explanatory framework of Kant's Model.)

Another requirement appears therefore to have surfaced here. It is this: the conceptualization of a body's parts and their interrelations must be, first, a (two-way) causal structure and, in addition, one capable of functioning within a larger intentional explanatory framework. As the basis on which to hypothesize an idea or conception of a whole, a (two-way) causal structure (among the body's parts) appears to make it possible for concept-users to view a body as the *effect* of intentional production. In doing so, this two-way causal structure functions to assist reason out of its explanatory crisis concerning natural organisms by making it possible to "cognize the necessity" in these phenomena. It has already been shown (or, at any rate, plausibly suggested) how the model of interaction may be viewed to function within the larger explanatory framework of Kant's Model. It has, in addition, already been shown that Kant's explanatory Model is of an intentional (or teleological) type. So being required to perform within a larger explanatory framework of an intentional sort would therefore pose no problem for the model of interaction.

On the hypothesis, where not only the model of interaction's implicitness is acknowledged but also that of the larger explanatory framework of which it is integral part, we can explain (or, at any rate, excuse) Kant's abrupt redescription of a body's composition in teleological terms. We can do so because Kant's explanatory Model works under *dual* directions of inference. Recall that in addition to inference

(A), Kant's Model contains another inference (B), the inference *from* the idea or conception of the whole *to* the datum (i.e., a plurality of substances embedded in a two-way causal structure). Under inference (B), the explicanda may be reconceptualized in teleological terms.

Once the hypothesis of a prior idea or conception of the whole is made, the parts are reconceptualized as a system of *constitutive means* to the final end of composing whatever whole was intended, namely, one embodied by the whole-organism. It is in only in reference to the conception of the whole-organism that a plurality of parts can be individuated and so derives their particular identities as a parts. The only way the whole-organism could exist *prior to* its physical composition is under an "ideal" conceptualization of it, where it is the final end (the target of composition) relative to which a set of parts may be viewed as a set of means subordinated to it. But under an "ideal" conceptualization, the whole-organism would be something mental—an *idea*—and therefore could exist only in the mind of some intentional agent, one capable of submitting its productive powers to the guidance of concepts. It is therefore only within the intentional explanatory framework of Kant's Model, that a prior conception of a whole could be in a position to causally determine the identity and individuation of a body's parts. Thus only within the explanatory framework of Kant's Model would a body's parts and their interrelations be able to exhibit part-on-whole dependency.

On the hypothesis that Kant's explanatory Model is implicit (in §65), concept-users would, in addition, have the model of interaction at their cognitive disposal.

They would have, in other words, a conceptualization of a two-way causal structure in which to conceptualize a body's parts and their interrelations, one that induced them to hypothesize a prior idea or conception of a whole. Moreover, in view of the dual inference structure of Kant's Model, concept-users would also have at their disposal the cognitive means of reconceptualizing a body's parts and their interrelations in teleological terms, as a system of reciprocal means/end relations, one in which every constitutive means (part) is indispensable and so necessarily unified with all the other means (parts) under a single final end, one embodied by the whole-organism. Under inference (B) the teleological redescription of the body's parts and their interrelations would therefore exhibit final causality. On the hypothesis that Kant's explanatory Model is implicit, concept-users (of §65) would have cognitive access to a conceptualization of the body's parts and their interrelations, one under which those parts would display part-on-whole dependency and thus necessary unity. And since, within the framework of Kant's Model, there would be causal necessity in the organic body's composition that reason could cognize, it would appear that on the hypothesis of the Model's implicitness, concept-users could be taken to have the conceptual resources needed to apply the concept of a natural end and thereby be able to assist (their) reason in averting its explanatory crisis (concerning natural organisms).

Chapter Eleven

THE HIERARCHIC COORDINATION OF INTERACTIVE STRUCTURE

> The connection of substances constitutes what is essential in the concept of the world. Reciprocal interaction is in the whole, and here a substance is acting <*agens*>; and so there must be a reciprocal interaction with every whole.
>
> —Immanuel Kant, *Lectures on Metaphysics*

11.0 Introduction

The aim of this final chapter is not a mechanical (let alone rudderless) audit of the preceding chapter discussions. Rather, the aim is to view the analyses of the preceding chapters as hard-won Kant-internal data, which can subsequently be used for further higher-order theorizing. Expressed metaphorically, the previous chapters are so many rungs on a ladder which, when climbed, should allow the reader to ascend to a more elevated vista, one from which he can command a clearer view of how Kant's third critique fits into Kant's larger architectonic project. Said less metaphorically, I have the specific aim in mind to use the data and analyses presented in the previous chapters as the basis for constructing a multi-grade model of interaction, one in which multiple levels (of interactive structure) are recursively coordinated. This interpretative undertaking is to be done primarily in light of Chapter 2, which presents the superstructure under which all the chapters (including the present one) are to be subsumed.

In Chapter 2, I presented a model of rational systematicity according under which an ineliminable mereological dimension was acknowledged. Moreover, I

argued that Kant's uber-principle (as presented in the Appendix) was to be interpreted largely in light of this mereological dimension, so that the content of what it prescribes would amount to an intellectual imperative under which theoretical reason was to maximize mereological structure.[341] Recall in the Appendix (second part) Kant says that the transcendental ideas must have a transcendental deduction, one that consists in showing how they could function as "necessary maxims of reason." Here I suggested that the three types of t-ideas could be viewed as necessary maxims only in relation to a superordinate principle (which I identified as the uber-principle stated at A645/B673). The basic idea is that reason is under the general mandate to maximize systematicity (explicated as the maximization of mereological structure) and that the functions of the transcendental ideas can be explicated in light of this general mandate.

But since my reading of the third critique belongs generally to the *cognition-oriented* type, specifically, one which draws largely on material from the first critique's Dialectic, I suggested that we further specify the uber-principle (of A645) by reading it in light of Kant's *ID* analysis of the concept of a world in general. Doing this meant viewing the three types of transcendental ideas as three nonredundant types of cognitive end, whose directive content and systematic use could be explicated by reference to theoretical reason's highest-order objective, namely, to represent the world. (See Diagram below.) In this context, where by

[341] Mereological structure of a certain kind, namely, of the type where the parts are dependent (for their identity and individuation) on the idea or conception of a whole. For details see 2.5.

'world' we mean an absolute whole, the directive content assigned to each t-idea was determined by the tripartite division of labor according to which the representation of a world consists in the representation of parts (substances), form (relational structure) and ever-larger (comparative) wholes.

Diagram 2.8d:

T-Idea	Object-Oriented Directive Content
Self	Represent the world's parts on the model of individual agent-substances
World	Connect the world's singular parts in structural complexes (causal structures)
God	Connect all *possible* structural complexes under the *idea* of a world-whole

It is in the context of theoretical reason's highest order end to represent a world-whole that the use or functional value of the t-ideas can be seen as object-oriented. Their use counts as object-oriented not in the sense that the t-ideas are to be used to know so-called "transcendent" objects, that is, to designate mind-independent entities, ones that fall outside the limits of experiential cognition; rather the t-ideas' object-orientedness consists in providing the system with an internal guide for the cognitive construction of a world-whole. That is, the object-orientedness of the t-ideas does not consist in their theoretical intentionality, where that is conceptualized or assessed under the norms of truth (establishing reference relations, say) but instead on the model of practical intentionality, where the intensional object of each t-idea prescribes a corresponding *goal* for cognitive realization -- a *target*, if you will, toward which the empirical use of the understanding is to be directed. And since these targets are pursued in the service of reason's highest-order end to represent a phenomenal world-whole, the use of the t-ideas in this context seems to count as legitimately object-oriented (and thus also as legitimately cognitive).

Here I suggested that the transcendental ideas can be viewed as a system of higher-order cognitive functions, ones that guide our representational systems in respect of three distinguishable levels of object-oriented representation.

(1) the level of individual objects (on the model of whole-entities)

(2) the level of individual structural complexes (ones made up of objects)

(3) the level of structural complexes (made up of other structural complexes) and so on.

The basic idea is simple enough. I read the imperative to systematicity as the maximization of mereological structure (of a certain sort). Reason's job is therefore to guide the understanding's materials under the direction of the t-ideas, so as to construct objects on each of the three levels above. (I discuss the division of representational labor between reason and the understanding in 11.1.)

In this final chapter my focus is on the cosmological ideas. Hence I am concerned with how the cosmological ideas further reason's need to construct structural complexes (level (2). In a cosmological context, reason pursues the unconditioned via its *mereologically-oriented* regressive syntheses. The aim, then, is to explicate in more detail the use or function of the transcendental ideas in this context. As I will try to show, reason's (mereologically-oriented) regressive syntheses are necessarily recursive (because they are performed on extended matter, which is infinitely divisible and extendable). Consequently, reason's pursuit of the unconditioned (which is never completed, only approximated) amounts to the construction of a hierarchy of whole-objects, one that can never be completed. The

aim is therefore to show how the specific functions of the transcendental ideas can be plausibly explicated in reference to a hierarchy of structured wholes. Since, as we have seen, Kant explicates the concept of a world-whole in terms of reciprocal interaction, a hierarchy of whole-objects turns out to consist in a multi-grade system of interactive structure.

Next, the aim is to use this as the basis to explicate the philosophical significance of the third critique's interest in natural organisms. Natural teleology forms the basis for Kant's third-critique model of a systematized nature, one under which it is conceptualized as a *thoroughly organized* world-whole.[342] I submit that the cognitive significance of Kant's interest in natural organisms (and his principle of organization)[343] is that they represent (in his mind, anyway) an empirically given subject matter (and thus an amenable object-oriented format) in reference to which reason can execute its regressive syntheses in its pursuit of the unconditioned. Because organisms must be computed *as natural systems*, they represent phenomena in reference to which reason must explanatorily introduce *ends* (= final causality) into nature; consequently, reason is able to perform its (mereologically-oriented) regressive syntheses on these amenable natural phenomena and thereby maximize intraphenomenal systematicity.

[342] See *CPJ* §§67-68 for Kant's discussion of this claim. Most commentators (Guyer and Wicks, for instance) acknowledge a micro/macro distinction operating in Kant's discussion of natural organization. Individual organisms are models (in propria persona) of rational systematicity, which, under my analysis, means they exhibit part-on-whole dependency. See 2.5 for details on this point. Similarly, were nature, considered in its entirety, to be a thoroughly organized whole-object, all of its parts would be dependent on the idea or conception of a whole, one under whose guidance nature was created by a supreme intelligence (God).

11.1 Filling The Gap: Finding Cognitive Employment For Reason's Transcendental Ideas

As remarked, reason operates with a set of transcendental ideas, ones that are to have a prescriptive use in our representational life. So the question may be raised as to what, which faculty, is subject to these prescriptions. Does reason prescribe these to itself? If so, that would suggest a type of circularity in the sort of answer we give about their functional role in our cognitive systems. Let me explain. Most commentators acknowledge that Kant is attempting to "isolate" reason's particular contribution to our representational life. That being so if we say that reason's contribution consists in its bringing a set of ideas (of self, world, and God) to the table and, in addition, point out that these ideas are prescriptive for our cognitive systems, then unless we have conceptualized some separate representational field of play, one which is not *identical to* reason (or its ideas) and yet also stands *subject to* its prescriptions, we have not really explicated the *use* of these ideas; rather we've only acknowledged the fact of their being prescribed (and who the prescriber is).

> Reason presupposes those conditions of the understanding which are first applied to experience, and seeks the unity of these conditions in accordance with ideas that go much further than experience can reach. The affinity of the manifold, without detriment to its variety, under a principle of unity, concerns not merely the things, but even more the mere properties and powers of things.[344]

Kant seems to recognize this in his remarks about the so-called "transitive" relation between reason and the understanding. The understanding operates on (or is

---

[343] See *CPJ* §66 for Kant's formulation and brief (but important) discussion of it.

[344] *CPuR*, A662/B690, underscoring added.

normative for) sensibility; sensibility is conceptually determined by the categories of the understanding; and the understanding is, in turn, guided by reason and its ideas. That is, just as the understanding guides sensibility, reason guides the understanding.

> "The understanding constitutes an object for reason, just as sensibility does for the understanding. To make systematic the unity of all possible empirical actions of the understanding is a business of reason, just as the understanding connects the manifold of appearances through concepts and brings it under empirical laws.[345]

The distinction between Analytic and the Dialectic maps the distinction between two cognitive faculties, namely, the understanding and reason. (See Diagram below.)

Diagram 11.1

Faculty	First Critique	Affiliated Concepts
Understanding	Analytic	The Categories and Principles (Analogies)
Reason	Dialectic	The Ideas of Pure Reason (Trans. Ideas)

It seems pretty clear that, in Kant's mind anyway, the domain in or at which reason is to *stage* the performance of its regressive syntheses is that of empirical-phenomenal reality. The categories of the understanding are hyperabstract conceptual norms, ones that operate subpersonally in order to make first-personally structured object-oriented phenomenal consciousness possible. It therefore stands to reason that, if to perform a regressive syntheses, the categories must be used, then such performances would have an undeniable cognitive significance; which is to say regressive syntheses must be *intentionally directed at* the things that show up in our representational field.

Many commentators explicate the functional role of the t-ideas in reference to the Gap in performance between the faculties of the understanding and reason. That

[345] *CPuR*, A664-65.

is, they acknowledge that the t-ideas are prescriptive (for the understanding) and they hypothesize (not without textual warrant, I might add) that there must be some dimension to our representational life, one that Kant acknowledges as important and yet also one for which he thinks the understanding (and its "materials") are, by themselves, inadequate. The basic idea is that there must be some part of or dimension to our representational life, one which is undeniable and necessary and at the same time one which would not be possible were it not for the guidance of the transcendental ideas.

> A basic problem with Kant's position, then, centers on the issue of whether the general demand for systematic unity of knowledge (as well as the correlated assumption that nature conforms to this demand) is really necessary for the proper employment of the understanding (and so necessary for the possibility of experience), or whether it simply "adds" something to this experience (namely its ability to be systematically unified in scientific theory).[346]

What vitally important part of our representational life, if any, would be missing without these (rather unusual) content-bearing entities? Allison (2000), Grier (2001)[347], Neiman (1994), Brandt (1989) for instance, all appear to explicate the function of the t-ideas (or, more generally, of regulative principles) in reference to the Gap between reason and the understanding. Reinhard Brandt (1989) offers a somewhat more explicit statement about what the performance Gap consists in:

---

[346] Michelle Grier, *Kant's Doctrine of Transcendental Illusion* (Cambridge University Press, 2001), 281.

[347] Grier writes: "Yet if we are to understand Kant's attempt to assign a positive function to the three transcendental ideas under consideration in the earlier portions of the Dialectic (i.e., to justify the use of these ideas in relation to the knowledge given thought he real use of the understanding), then we must first get clear about the kind of necessity that attaches to our thinking these ideas in the first place" (295).

> The principle of the division of transcendental logic into Analytic and Dialectic, into a logic of truth and a logic of illusion, derives from a certain flaw of the ideas; namely, that they become dialectic through a certain use of the judgment (A643). With this basic division a central idea of the whole theory of knowledge is properly set forth. Partial knowledge of nature is possible through the understanding, without requiring knowledge of the whole and the unconditional; but in this way the whole and unconditional is (mis)understood as a thematizable object of knowledge itself, not as idea. As idea, the whole is indispensable for systematic experience, but that means: for human experience in general, which cannot but comprehend partial elements of it in the frame of unity and specification. The ideas and transcendental principles of reason are indispensable for a unified, self-conscious experience: but this fact is distorted past recognition under the pressure of the division of the text.[348]

And Neiman, who seems to have a similar view, articulates the Gap between reason and the understanding in metaphorical terms:

> The organization of the material provided by understanding requires principles of selection and choice, notions of relevance and appropriateness. None of these can fittingly be called items of knowledge: they are derived neither from experience nor from the conditions of its possibility. Yet it is certain that they are basic to our construction of knowledge. One might think of the faculties of sensibility and understanding as functioning like a movie camera without an editor, blindly recording the passing show, or of understanding as capable of forming sentences not paragraphs. These metaphors are not wholly satisfactory. Kant, as we saw, gives no description of a creature lacking reason but not understanding, perhaps because he believed no real description of such experience to be possible. The difficulty of such description only serves to emphasize the depth of the structure that reason's principles give to the products of the understanding.[349]

A view of the Gap between reason and the understanding is also to be found in Michelle Grier's important work on the Dialectic of the first critique:

> Put simply, although reason has an interest in securing systematic unity of already obtained theoretical knowledge, such knowledge is only obtained in

---

[348] Reinhard Brandt, "The Deductions in the *Critique of Judgment*," in *Kant's Transcendental Deductions*, ed. Eckart Forster (Stanford University Press, 1989), 179, emp. added.

[349] Susan Neiman, *The Unity of Reason* (Oxford University Press, 1994), 70.

> the first place in accordance with reason's ideal of such completed systematic unity. In this sense, there is a relation of mutual dependence between the goals or interests of reason and the theoretical activities of the understanding. If this is correct, then Kant's general view is that the assumption that nature is systematically unified is always and already implicit in the theoretical undertakings of the understanding. Hence what will count as knowledge will ultimately be determined (at least in part) by whether it accords with this transcendental assumption of pure reason.[350]

Both Neiman and Grier acknowledge and play up the prescriptive role of the t-ideas and both explicate their functional role in reference to the relation between reason and the understanding. Both commentators offer comparatively more extended analyses of the positive account of the transcendental ideas and both acknowledge that these ideas perform some function within the framework of reason's pursuit of the unconditioned.

In light of Kant's remarks about the prescriptive content, both Grier and Neiman model the use of the t-ideas on practical (not theoretical) reason; which is to say that both view the t-ideas to possess (what I will call) *directive import* (see 2.4 for details). Grier states:

> Yet if we are to understand Kant's attempt to assign a positive function to the three transcendental ideas under consideration in the earlier portions of the Dialectic (i.e., to justify the use of these ideas in relation to the knowledge given though the real use of the understanding), then we must first get clear about the kind of necessity that attaches to our thinking these ideas in the first place.[351]

The analyses of Neiman's and Grier's play up the directive import of the t-ideas and

---

[350] Grier, 282, emp. added.

[351] Grier, 295.

do so within the context of reason's pursuit of the unconditioned. But Neiman's account operates at a fairly high level of abstraction so that, while she is explicit about the teleological character of regulative principles (namely, that they function as "ends of reason"), her account is underdeveloped in that it does not, so far as I can tell, bring this analysis specifically to bear on the three types of transcendental idea (of self, world, and God); nor does her account show how these rather special sorts of content-bearing entities, when functioning as ends, operate as a *system*.

It would appear that grasping what this performance Gap (between reason and the understanding) is the key to explicating their functional role within our cognitive systems. However since Kant does not himself say much about this Gap, specifying it with any kind of conceptual precision (or textual certainty) does not seem to be an option. In view of this, it seems to make more sense to explicate the transcendental ideas in reference to what Kant says about regressive syntheses (about which he has comparatively more to say) than to try to speculate about what this Gap is in order to construct a model of what the functional roles of the t-ideas are. I submit that a more fruitful approach to explicating the "necessity" or functional role of the t-ideas is, first, to proceed by linking this enterprise to reason's pursuit of the unconditioned (as Neiman and Grier seem to do) and, second, to further *specify* this context as one in which reason pursues this aim *via* its mereologically-oriented regressive syntheses.

According to this approach, reason's (mereologically-oriented) regressive syntheses provide an object-oriented representational format, one that implicates the involvement of both the understanding and reason. Kant is explicit in claiming that

reason's pursuit of the unconditioned is importantly *linked* to the understanding and its categories. Kant himself this explicit when he says that

> we see very well that the proper principle of reason in general (in its logical use) is to find the unconditioned for conditioned cognitions of the understanding, with which its unity will be completed.[352]

The *misuse* of the t-ideas evidently occurs when reason's pursuit of the unconditioned leads it into the search for a "transcendent" entity (be it a transcendental self, an absolute boundary of the world, or God). However, in 2.2 we saw how reason's speculative interest in the t-ideas could be put to an acceptable (intraphenomenal) use. Reason's use of the t-ideas is acceptable so long as these content-bearing entities are used to maximize intraphenomenal systematicity, not however for the purposes of establishing reference relations to a set of mind-independent (extra-phenomenal) objects.

> Now a transcendental concept of reason always goes to the absolute totality in the synthesis of conditions, and never ends except with the absolutely unconditioned, i.e., what is unconditioned in every relation. For pure reason leaves to the understanding everything that relates directly to objects of intuition or rather to their synthesis in imagination. It reserves for itself only the absolute totality in the use of concepts, and seeks to carry out the synthetic unity, which is thought in the categories, all the way to the absolutely unconditioned. We can therefore call this the unity of reason in appearances, just as that which the category expresses can be called the unity of understanding.[353]

In 2.7 I modeled reason's use of the transcendental ideas on a functional architecture of the mind, one that subserved reason's highest-order end of representing a world-

---

[352] *CPuR*, B364-65.

[353] *CPuR*, B383.

whole. Within this interpretative framework, I submit we can view reason's supervisory role vis-à-vis the understanding as follows. We start by explicating the term "transcendent" as a whole-object that can never be *fully* presented within the perimeters of a first-personally structured experiential cognition.[354]

According to Kant our representational systems implement space as an internal (phenomenal) representation of an external order of relations (see 3.2-5). Spatiality is (for us) the particular way our systems semantically compute externality (to our systems). If space is "in us," then it must be a particularly foundational type of representational content -- a phenomenal domain of existence in which we "coordinate" represented entities. One significant object that a human representational system coordinates in space is *itself*. The system computes the cognitive reference (of its perceptual episodes) under a self-model in which it simulates its own embeddedness in a spatial environment. This self-model is therefore itself a construct of empirical-phenomena reality, one that operates *within* that simulation. Under this self-model, the system computes the perspectivalness (of its perceptual contents) as a fundamental corollary of its model of an *individual* (= first-personally structured) representational system; which is to say that the system

---

[354] Although I cannot substantiate it here, my view of the difference between the first critique's Analytic and the Dialectic is this. In the Analytic Kant is largely concerned with providing a model of a first-personally structured phenomenal consciousness. There, the categories of the understanding operate as subpersonal conditions which ground the intentionality of (object-oriented) perceptual experience. In the Dialectic, however, Kant seems more concerned with the conditions underwriting a detached God's-Eye view of the world, one that is affiliated with the intellect (or reason), which is largely impersonal and nonperspectival. For a pictorial illustration of the Analytic/Dialectic distinction in these terms see the Appendix.

achieves its aim of representing an external reality *in part* from the standpoint of an *embodied* cognitive system.[355]

Under this analysis, reason can be viewed as *freeing up* the understanding in its empirical use by guiding the latter in the construction of ever-larger structured wholes, ones that cannot present themselves (not, at any rate, as complete whole-objects) in the chronically-perspectival perceptual episodes of embodied cognitive systems.

> [W]e must first note that it is only from the understanding that pure transcendental concepts can arise, that reason really cannot generate any concept at all, but can at most only **free** a concept of the understanding from the unavoidable limitations of a possible experience, and thus seek to extend it beyond the boundaries of the empirical, through still in connection with it [the empirical]. This happens when for a given conditioned reason demands an absolute totality on the side of the conditions (under which the understanding subjects all appearances to synthetic unity), thereby making the category into a transcendental idea, in order to give absolute completeness to the empirical synthesis through its progress toward the unconditioned (which is never met with in experience, but only in the idea).[356]

On this view, the understanding's needs to be guided by reason could be interpreted as the need for our object-oriented perceptual systems to be cognitively supplemented by a detached (God's-eye view) of the world; which is to say that the perceptual inputs (of embodied cognitive systems) would be recognized as always needing to be

---

[355]Although I have developed my view of the system's use of a phenomenal self-model independently, I have since learned that a similar view has been developed in considerable detail by Thomas Metzinger (2004). I derived the term 'self-model' from Metzinger (whose work I have only skimmed). Although certain similarities between his model of a first-personally structured intentionality and Kant's account of apperceptive consciousness can (and have) certainly be drawn, Metzinger's project is not a Kant-internal interpretative one. So far as I know, Metzinger is not concerned with establishing a link between his model and Kant's.

[356] *CPuR*, A409/B436.

rationally contextualized within the representation of a larger world. (Such a contextualizing representation could not itself be perceptual.) The objects of perceptual reference would (under this scenario) be *thought* of holistically as parts of a much larger structure of spatial entities (ones that are not currently being perceptually represented) but are nonetheless conceptualized as belonging to one environmental whole.

To illustrate, you are sitting there reading a manuscript, physically located in a room or office, one which is part of a larger structural complex, which is part of larger region (neighborhood, city, state), which is part of larger geographical region of physical space (North America, western hemisphere, earth) which is part of larger heliocentric planetary system, which is part of galaxy, and so on. None of these larger environmental structures are *ever* objects of empirical acquaintance (certainly, not completely, at any rate), because our experience of every such whole-object is chronically perspectival and so necessarily partial. You nevertheless take your perceptual experiences to be intentional; you *think* of them under the recognition that they stand in an *experience-of* relation to these larger objects. The flipside of viewing your phenomenal self as an embodied cognitive system means viewing the on-going imputs of your perceptual systems as being always-partial experiences of objects, ones that are conceptually (or semantically) linked to others (of ever-greater magnitude) under the (contextualizing) representation of an all-inclusive world-whole.[357]

[357] Please see Appendix A (located at the end of this work) for pictorial illustration of this model.

11.2 Adapting Objecthood To the Spatial Nature of Our Representational Systems

In *MFNS* Kant distinguishes between the empirical representation of space and absolute space *as an idea of pure reason*. The empirical representation of space is evidently object-oriented and is always the representation of "comparative wholes"—that is, determinate spatial entities, ones, which form determinate structural complexes. The empirical representation of space is therefore always the representation of particular *things in space*, whereas the idea of absolute space appears to function as the system's means for intellectually contextualizing—or, literally, "containing" or "encompassing"—the objects that are presented in its empirical representation of space. The spatial entities, the ones front-loaded in our perceptual fields, would presumably be the objects of perceptual reference.

Of course the objects presented to me in my perceptual field at any one time are never exhaustive of the world's inventory. When you (or your reason) consider these objects spatially, as bounded regions of (matter-filled) space, your reason must view every determinate region of space as a part of one absolute space.[358] From the standpoint of reason (which is the intellectual faculty capable of thinking ideas), all bounded regions of space must be necessarily unified so as to form one absolutely complete whole-Space.

> Space and time, as subjective forms, not as objects of the intuition of the *a priori* given manifold in appearance, are not derivative cognitions (*repraesentatio derivata*) but given originally in representation

[358] In the first-critique's Transcendental Aesthetic, Kant describes the a priori intuition of space as an "infinite given magnitude." The empirical representation of space consists in imposing limitations on this infinite intuition.

> (*repraesentatio primaria*); they are thought as the unconditional synthetic unity of the manifold, and their complex as an infinite whole, in which perceptions (empirical representations with consciousness) are thought of as in a system -- that is *coordinated* and *subordinated* according to the principles of the possibility of experience.[359]

However according to Kant space is "nothing in itself" a claim he uses to support his claim that is ideal and subjective.[360]

> Space is not a sensible object, and, to that extent, has no reality -- that is, nothing existent -- but, rather, contains merely the formal element of intuition that our own principle of thought posits synthetically. It is nothing outside my representation, but something merely subjective -- a mere intuition, without [being] an object different from my representation. The ideality of space, as the mere form of an intuition, also makes it the case that we can attribute *a priori* certain properties that carry with their synthetic a priori propositions -- e.g., three dimensions to an object that, in itself, is nothing. Space is not intuited but is an intuition.[361]

Commentators often focus on the epistemic dimensions of Kant's ideality thesis concerning space and time (that they are "in us"). What is not often given sufficient emphasis, however, is the cognitive instrumentality of space, that is, how space *functions* (in our cognitive systems) as an internal representation of an external order of relations. For us, spatiality is how our (embodied) cognitive systems compute

---

[359] *OP*, 22:451, underscoring added.

[360] In *NF*, Kant writes: "**4507**. 1772-75? Space is neither a thing in itself nor an actual real relation by means of which one thing posits something in another; consequently, it is not a concept of the understanding; because a concept of the understanding has some object, space therefore does not refer to an object but rather to the subject, and indeed not to sensation, but rather to the form of the senses" (*NF*, 17:577).

[361] *OP*, 22:445.

externality to itself.[362] Space is therefore the internal means that our representational systems use in order to accomplish the aim of purporting. So space is therefore not *what* is to be purported; rather it is a representation that the cognitive system sets up in order to *accomplish* its purporting.

> *Space* is an intuition; not something which *is intuited*.[363]

> This perception thus represents (staying for now only with outer intuitions) something real in space. For, first, perception is the representation of a reality, just as space is the representation of a mere possibility of coexistence. Second, this reality is represented before outer sense, i.e., in space. Third, space is nothing other than a mere representation, hence, only what is represented* in it can count as real, conversely, what is given in it, i.e., represented through perception, is also real in it. . . .*"One must note well this paradoxical but correct proposition, that nothing is in space except what is represented in it. For space itself is nothing other than representation; consequently, what is in it must be contained in representation, and nothing at all is in space except insofar as it is really represented in it.[364]

If space isn't the *representatum* and is instead what the mind uses in order to accomplish acts of cognitive reference, then the cognitive simulation of this external domain of existence is what the mind sets up in the service of its object-oriented representation.

---

[362] In *NF*, Kant states: "**5400.** 1776-78 (1773-75?) (1771?) M 128 at §402: The question of whether something is outside me is the same as if I asked whether I represent a real space. For this is something outside me. But this does not mean that something exists in itself, but rather that objects correspond to such *phaenomena*. For in the case of a *phaenomeno* we are never talking about absolute existence. Dreams are in analogy with wakefulness. Except for waking representations that are consistent with those of other people I have no marks of the **object** outside me; thus a *phaenomenon* outside me is that which can be cognized in accordance with the rules of the understanding. Yet how can one ask whether there are really external *phaenomena*? We are certainly not immediately conscious that they are external, i.e., not mere imaginings and dreams, but we are still conscious that they are the originals for all imaginings, and are thus themselves not imaginings" (*NF*, 18:172).

[363] *OP*, 22:442.

[364] *CPuR*, A 375, in footnote.

> The complex of all outer sense-objects, according to its formal principle, is space as one intuition, which is merely subjective (appearance); that of the inner sense-objects and of thought, is time: whereby both qualitative and quantitative relations and the unity of space are encountered.
>
> Space and time are not *entia per se* but mere forms of sensible representation.[365]

Human representational systems have to operate under a model of objecthood that is adapted to their internal representation of an external order of relations (= space). The system's representation of *relations* between two or more entities isn't an end in itself; the end is to represent objects. How do you cognitively introduce *objects* into a spatial representational field that consists essentially in a system of *sheer relations*? If space is "nothing in itself" and, in addition, if this claim is to be explicated to mean that there would be no empirical representation of space if there were nothing being represented *in it*, then it seems that the empirical representation of space will largely depend on the mereological structures of the *spatial entities* that are represented in it.

In light of Kant's insistence that the empirical representation of space (in cognitive contexts, anyway) is equivalent to the representation of things-in-space, *superposition*, (where one larger region of space overlaps a smaller) could be taken to have an *ontological counterpart*. Since the world reason is interested in representing is a systemic whole and since, in addition, it must operate under a conception of objecthood that is adapted to the spatial nature of our representational fields (in which externality is computed as spatiality), the representation of singular objects must

---

[365] *OP*, 22:99.

therefore consist in the representation of whole-objects. Structural complexity (of a spatial sort) could be conceptualized as mereological relations among spatial *things*. Such complexity could be taken to reflect a system of structured wholes, where *what something is* must be computed formally[366] as one composite entity being made up of subsidiary composite entities.

11.3 Reciprocal Interaction As the Conceptual Substrate of Space[367]

In Chapter 3, we saw the world's form—the relational structure in which its parts are connected—under two different descriptions, one "sensible," the other "intelligible" (or intellectual). There, we see reciprocal interaction (as causal structure) *explanatorily underwriting* the cognitive representation of the world's *spatial structure*. Space (being "nothing in itself") cannot function as the *ground* of the connection among multiple substances; rather, it is reciprocal interaction that grounds the connection among a set of coexistent entities. (See 3.1-3.4 for details.) I suggested that in a "critical" context, reciprocal interaction is elevated to the status of an a priori category of the understanding. In this first critique context, Kant's interest in reciprocal interaction appears to be in using it as a conceptual substrate for the "sensible" representation of space (see 3.5).

If the intellect cannot *think space*, that is, if the intellect's attempting to think

[366] "Formally" in the sense that space is an (a priori) "form of intuiting" phenomenal objects.

[367] More precisely, the "categorial" substrate (as in the categories of the understanding). I derived the helpful term "conceptual substrate" from a magnificent work in cognitive linguistics, namely, Ronald Langacker's *Foundations of Cognitive Grammar* (1987).

space, which is a "sensible" representational content, is analogous to the visual system's (unsuccessful) attempt to represent either an auditory input (sound) or a gustatory sensation (flavor) or a tactile input (softness), then it would appear that there has to be some rationally intelligible *link* between the sensible representation of space (and spatial representation of objects) on the one hand and some *thinkable* content on the other, one which is (in some way) cognitively affiliated with space. This conceptual content makes it possible for the intellect to *think* a structure that is *representationally coeval* with spatial structure.[368] In other words, there has to be some conceptual means in terms of which reason or the intellect can convert or reconfigure the representation of space so that a given intentional content, one that is presented to me sensib*ly*, can nevertheless be computed intellectual*ly*.

It is under the subtype of relational category, specifically, *the category of community* (= reciprocal interaction, CAT 3.3) that we find a thinkable (discursively representable) structure that is subsequently to be linked to the intuitive representation of space.[369] It would therefore appear that the empirical representation of space requires something like a general conceptual substrate.

> Space is not intuited as object, and is not a sense-object for an aggregate of perception for the sake of the possibility of experience. For the formal unity

---

[368] The result is a sort of *representational simulcast*, one in which the objects showing up in our perceptual fields are always subject to (or, at any rate, can be subjected to) discursive representation (or cognitive judgment), the latter being governed by a set of basic conceptual norms. This allows perceptual inputs to take on the character of information. Our always-partial perceptual fields can, in addition, be intellectually embedded in a larger representational field, one that is governed by the transcendental ideas (see 11.2). The idea of a representational simulcast seems to imply a necessary link between the categories and the t-ideas. Kant seems to think there is one (see 11.2).

[369] The link, I suggest, is to be found first in the first critique's Schematism and then stated in the Third Analogy principle.

> in the synthesis of the manifold of intuition, in which the manifold is not given in combination, but *made* by the understanding, is the principle of the possibility of empirical representations with consciousness for a system of representations in the unity of experience. All experience is problematic; it becomes assertoric through perception as an aggregate. It is never apodictic, however.[370]

Notice that Kant refers to a formal structure, or formal unity of the manifold of intuition, which is made by the understanding and which is "the principle of the possibility of empirical representations with consciousness for a system of representations in the unity of experience." When Kant says that the synthesis is "made by the understanding," he of course is referring to a norm-governed subpersonal condition of intentional awareness.

Elsewhere Kant is somewhat more explicit:

> The material out of which experience is originally woven is not the perception (empirical representation with consciousness) of some object—that is, not that which sense *receives* as material—but that which the understanding *makes* out of the formal element of sensible intuition. So it is not from receptivity but from the spontaneity of the subject (thus, from the (formal) principle of composition, that is, from that which the understanding makes out of this simple material—hence autonomously, not heteronomously) that the aggregate of perceptions becomes a system, which, according to the principle of identity, is only one—that is, contains absolute (unconditional) unity in itself.[371]

What is this formal element or formal structure?[372] Kant tells us that the categorial

---

[370] *OP*, 22:448.

[371] *OP*, 22:447.

[372] In his lectures on metaphysics Kant writes: "Substances are the matter of the world, the formal aspect of the world consists in their connection <*nexu*> and indeed in a real connection <*nexu reali*>. The world is thus a real whole <*totum reale*>, not ideal <*ideale*>" (*LM*, *Metaphysik* L_2, 28:581). See also LM, *Metaphysik Dohna*, 28:657.

concept of community (= the concept of reciprocal interaction) is the concept the understanding uses to represent wholes (as opposed to series). According to Kant in order to make a disjunctive judgment, concept-users have to presuppose a subtype of the category of "relation," namely, the category of community (CAT 3.3 on Kant's list of categories). Only instances of the category of community are capable of being the intentional object of a disjunctive judgment. At B113 Kant writes:

> Now a similar connection is thought of in an entirety of things, since one is not subordinated, as effect, under another, as the cause of its existence, but is rather coordinated with the other simultaneously and reciprocally as cause with regard to its determinations (e.g., in a body, the parts of which reciprocally attract yet also repel each other), which is an entirely different kind of connection from that which is to be found in the mere relation of cause to effect (of ground to consequence), in which the consequence does not reciprocally determine the ground and therefore does not constitute a whole with the latter (as the world-creator with the world). The understanding follows the same procedure when it represents the divided sphere of a concept as when it thinks of a thing as divisible, and just as in the first case the members of the division exclude each other and yet are connected in one sphere, so in the latter case the parts are represented as ones to which existence (as substances) pertains to each exclusively of the others, and which are yet connected in one whole.[373]

Viewed in context Kant is attempting to offer a compelling interpretation of the categorial concept of community that will square his analysis of the *logical content* of the disjunctive judgment.[374] More specifically, the context in which this citation occurs in the text is one in which Kant is contrasting the second relational category (the category of cause and effect) with the third relational category.

[373] *CPuR*, B113, underscoring added.

[374] See *JL*, General Doctrine of Elements, Second Section, §29.

Here Kant is contrasting the different way a manifold is represented under these two different relational categories. An intuited manifold represented under relational category of cause and effect (which is not reciprocal causation) is conceptualized as a *series*; whereas a manifold represented under the relational category of community is conceptualized as a *whole*, "an entirety of things," such that one thing is "coordinated with the other simultaneously and reciprocally." So, in the most general terms, the difference between the second and third relational categories (of cause and effect and of community) appears to be a basic difference in how intuited manifolds are to be conceptualized—as either a series or a whole (where the 'or' is exclusive).

The recent analyses of Beatrice Longuenesse's may bring some illumination here. Longuenesse's general view of the Analogies is evidently cognition-oriented:

> Thus Kant's Analogies of Experience should be understood as being essentially an explanation of how we relate representations of objects in general: an explanation of intentionality (the directedness of representations, their property of being representations of something), and as a result, a theory of what makes it possible to apply concepts such as those of causal connection and causal interaction to the objects of an empirical science of nature.[375]

In the context of her cognition-oriented view, it is Longuenesse's analyses of the Third Analogy that allows us to triangulate on the cognitive function of disjunctive judgments (= ones that employ the concept of reciprocal interaction):

> I intend to show that Kant's argument in the Third Analogy is meant to lay out just those acts of synthesis by way of which things are individuated in space and time. According to Kant, those acts of synthesis are acts by means of

---

[375] Beatrice Longuenesse, *Kant on the Human Standpoint* (Cambridge University Press, 2005), 203 (footnote).

> which things are represented as being in relations of universal causal interaction. Only insofar as they are so individuated can they also be thought under concepts of natural kinds (namely, under a universal scale of genera and species) ordered according to the form of discursive judgment and a system of such judgments.[376]

From her analysis of Kant's argument in the Third Analogy, Longuenesse concludes:

> If this is correct, objects are thus individuated in space and time by their reciprocal interaction, and concepts of objects thus individuated are concepts of relational properties. But this means that the empirical-cognitive use of the form of disjunctive judgment, by means of which we think objects in nature as falling under a unified scale of genera and species, is mediated by that of the form of hypothetical judgment, by means of which we individuate objects by determining their universal interaction in one space and one time.[377]

Longuenesse's (somewhat controversial) claim is that disjunctive judgments are "mediated" by hypothetical judgments. I am not sure she is right. However the aim here is not to offer a detailed analysis of Longuenesse's view. Suffice it to say, that Longuenesse acknowledges disjunctive judgments to serve an important cognitive function, one that is certainly object-oriented in that it is on the basis of these judgments that objects can be individuated in space and ordered systematically.

11.4 The Explanatory Structure of Reason's Regressive Syntheses

Reason is under the imperative to pursue the unconditioned and it does this by performing regressive syntheses. For present purposes, the basic idea seems to be that, in performing a regressive synthesis, concept-users undertake to *think* a rational

[376] Longuenesse, 197.

[377] Longuenesse, 203.

relation between one object understood as the *conditioned* and another object (or set of objects) understood as the underwriting *conditions* for the former; in other words, the former is regarded as a *given datum* whereas the latter is regarded as a set of existence (or possibility) conditions. (See Diagram below.)

Diagram 11.4

Regressive Synthesis	Computed As
"A Given Conditioned"	An empirical datum ("a given whole of intuition")
"The Conditions"	A set of possibility conditions (a set of underwriting parts

Kant says that regressive syntheses can be performed only within a sequential structure, a series. The basic point seems to be that the rational relation between the *conditioned* and a set of *conditions* is that of a *given datum* and a set of existence (or possibility) conditions. Kant provides a formal conceptualization of how regressive syntheses are supposed to work:

> Thus one necessarily thinks of the fully elapsed time up to the present moment as also given (even if not as determinable by us). But as the future, since it is not a condition for attaining to the present, it is a matter of complete indifference for comprehending the present what we want to hold about future time, whether it stops somewhere or runs on to infinity. Let there be a series *m, n, o,* in which *n* is given as conditioned in respect of *m,* but at the same time as the condition of *o,* and the series ascends from the conditioned *n* to *m* (*l, k, j,* etc.); then I must presuppose the first series in order to regard *n* as given, and *n* is possible in accordance with reason (with the totality of conditions) only b means of that series; but its possibility does not rest on the subsequent series *o, p, q, r,* which therefore cannot be regarded as given but only as *dabilis* [= capable of being given].[378]

Kant implies that reason's search for a set of conditions for a given conditioned is an enterprise that involves the categories (and thus the understanding). Since the

[378] *CPuR,* B437-38.

activity of the understanding is involved in reason's performance of regressive syntheses and since, in addition, these regressive syntheses are supposed to work under the guidance of the transcendental ideas, it seems plausible to think that it is the *understanding's activity* (its use of the categories) that is to be directed by the ideas of pure reason.[379]

Kant seems to think, however, that not all categories are suited to regressive syntheses which are modeled as a *sequential* structure. Specifically, Kant targets the relational categories, that of substance (CAT 3.1) and of community (CAT 3.3, of reciprocal interaction):

> Thus, first, the transcendental ideas will really be nothing except categories extended to the conditioned, and the former may be brought into a table ordered according to the headings of the latter. Second, however, not all categories will work here, but only those in which the synthesis constitutes a series, and indeed a series of conditions subordinated (not coordinated) one to another for any conditioned. Absolute totality is demanded by reason only insofar as reason is concerned with the ascending series of conditions for a given condition, hence not when dealing with the descending line of consequences, nor with the aggregate of coordinated conditions for these consequences.[380]

Kant seems to privilege the category of (one-way) causality (CAT 3.2) as the one that is most suited to regressive syntheses (see B442).[381] Kant's point here seems to be

---

[379] On the interaction between reason and the understanding, Kant writes: "If, therefore, pure reason also deals with objects, yet it has no immediate reference to them and their intuition, but deals only with the understanding and its judgments, which apply directly to the senses and their intuition, in order to determine their objects. The unity of reason is therefore not the unity of a possible experience, but is essentially different from that, which is the unity of understanding" (*CPuR*, A307).

[380] *CPuR*, A410.

[381] Kant states: "[T]he category of substance and its accidents is not suited to a transcendental idea, i.e., in regards to this category reason has no ground to proceed regressively toward conditions. For accidents (insofar as they inhere in a single substance) are coordinated with one another, and do

that regressive syntheses appear to apply only to causal sequences and, consequently, appears to commit us to modeling such syntheses on successive (one-way) causal sequences. This is a problem. Since, if this were true, regressive syntheses could therefore be performed *only* within a diachronic (not a synchronic) format; which is to say that reason would apparently be confined in staging its regressive syntheses to the domain of *inner sense* (whose phenomena are necessarily temporally successive) because, as we have seen in the preceding section, the spatial phenomena of *outer sense*, which are necessarily represented under the category of community (= reciprocal interaction), "are not subordinated to one another" as items in a series but are rather *co*-ordinated.

Since reason appears to direct its regressive syntheses to (outer) empirical-phenomenal reality, the task is to show how Kant's rather formal conceptualization of how regressive syntheses are supposed to work (one which evidently is modeled on causal sequences) can nevertheless be staged within a representational format where the objects are not *subordinated* but rather *coordinated* in space. I submit that reason can reconfigure this sequentiality in compositional terms, namely, by representing (outer) empirical-phenomenal as a hierarchical system of structured wholes.

> Space and time, as subjective forms, not as objects of the intuition of the *a priori* given manifold in appearance, are not derivative cognitions (*repraesentatio derivata*) but given originally in representation (*repraesentatio primaria*); they are thought as the unconditional synthetic unity of the manifold, and their complex as an infinite whole, in which perceptions (empirical representations with consciousness) are thought of as

not constitute a series. . . . The same holds for substances in community, which are mere aggregates and have no exponents of a series, since they are not subordinated to one another as conditions of their possibility, which one could very well have said about spaces, whose boundaries were never determined in themselves, but always through another space" (*CPuR*, B441-2).

in a system -- that is *coordinated* and *subordinated* according to the principles of the possibility of experience.[382]

11.5 Adapting the Serial Nature of Regressive Syntheses to the Spatial Nature Our Representational Systems

Kant says that the unconditioned can never be exemplified in empirical-phenomenal reality. It follows that the regressive syntheses that reason performs in the service of this pursuit can never be completed, only increasingly approximated. Moreover, since reason's pursuit of the unconditioned is supposed to subserve the interests of rational systematicity, it would therefore appear that that the linkages between the individual regressive syntheses are to be rationally intelligible; which is to say that that the reason's pursuit of the unconditioned is not to result in an aggregate of otherwise unconnected regressive syntheses (which would amount to an aggregate of unconnected whole-entities); rather the intention is to link these regressive syntheses together systematically.[383]

We can plausibly explicate the sequential dimension of reason's performance of regressive syntheses in the following way: A given conditioned would initially be acknowledged, one for which a set of conditions would then be determined. Then, since the unconditioned is never empirically fulfilled but rather only progressively approximated, reason is under the imperative postulate a second given conditioned, one which it undertakes to pursue a set of conditions for by starting with a prior given

---

[382] *OP*, 22:451, underscoring added.

[383] As remarked (see 2.5), there is an ineliminable mereological dimension to Kant's model of rational systematicity, one that consists in part-on-whole dependency.

conditioned; in this way, reason incorporates the first conditioned object into the set of conditions it determines for a second one and so on. It would therefore appear that the performances of *a* regressive synthesis not only has an internal structure which is sequential (in that it is supposed to be explicated in causal terms), it would also appear that multiple regressive syntheses are supposed to be recursively linked, so that reason is able to connect these in the formation of causal structures with increasingly greater scalar properties.

Notice here that, under this analysis, there is an interesting semantic *ambiguity* attaching to any entity on which reason would perform its regressive syntheses. Any whole-object that underwent one would have to be simultaneously conceptualized as both a given conditioned (= that for which a set of prior conditions must be given) as well as membering among a set of conditions which are to be directed at another given conditioned.

Diagram 11.5:

Regressive Syntheses	Whole-Object	Computed As	Explanatory Role
A given conditioned	That which is *to be* composed	Singular Entity	Superstrate
A set of conditions	That which composes	Set of parts	Substrate

Since reason's regressive syntheses is object-oriented (in its aims) and since, in addition, empirical-phenomenal reality is the domain in which it is to stage its pursuit of the unconditioned and since, finally, the phenomenal world is (for us) necessarily spatial, it seems to follow that if the sequential nature of regressive syntheses is to be preserved, that sequentiality (as just explicated) must be possible in a context where the items to be presented are not diachronic but rather *synchronic* wholes. I submit

that the sequential nature of reason's regressive syntheses can be adapted to the spatial nature of our representational systems by being recomputed under a model of *recursive composition*, one where a given object is dually characterized as both a whole (in relation to a set of parts) *and* a part in relation to a larger whole-object.

11.6 Reason's Mereologically-Oriented Regressive Syntheses

If reason performs its regressive syntheses in the service of its highest-order end, namely, that of object-oriented representation, we should expect that the model of regressive syntheses (as they are performed under the direction the cosmological ideas) may plausibly be constructed in light of that cognitive directive.

Kant says that the cosmological ideas are special in that together they form a system of "world concepts" (see *CPuR*, A645).

> Above I have called the ideas with which we are now concerned "cosmological ideas," partly because by "world" is understood the sum total of all appearances, and our ideas are also directed only toward the unconditional among appearances, but partly too because in the transcendental sense the word "world" signifies the absolute totality of the sum total of existing things, and we are directing our attention only to the completeness of the synthesis (though properly only in the regress toward its conditions). Considering, moreover, that taken collectively these ideas are all transcendent and, even though they do not overstep the object, namely appearances, in kind, but have to do only with the sensible world (not with noumena), they nevertheless carry the synthesis to a degree that transcends all possible experience; thus in my opinion one can quite appropriately call them collectively world-concepts.[384]

In the Antinomy of Pure Reason, specifically Sections 7-9, Kant appears to be "instituting" the regressive syntheses, where this seems to mean setting up the rules

[384] *CPuR*, A420, underscoring added.

under which such operations are to be performed.[385] Kant clearly has in mind to institute a mereologically-oriented form of regressive synthesis.

> Thus of the division of matter (of a body) that is given within certain boundaries, it must be said that it goes to infinity. For this matter is given in empirical intuition as a whole, and consequently, with all its possible parts. Now since the condition of this whole is its part, and the condition of this part is a part made of parts, etc., and in this regress of decomposition an unconditioned (indivisible) member of the series of conditions is never encountered, not only is there nowhere an empirical ground to stop the division, but the further members of the continuing division are themselves empirically given prior to this ongoing division, i.e., the division goes to infinity.[386]

It appears to be reason's aim to set up an conceptual apparatus where it can perform its regressive syntheses in the context of outer sense, where spatial boundaries are to be *successively introduced* in order to represent a ordered system of structured wholes. It must do this because the unconditioned (= the absolute boundary of the world) can never be encountered in empirical-phenomenal reality.

> Thus the idea of pure reason will only prescribe a rule to the regressive synthesis in the series, a rule in accordance with which it proceeds from the conditioned, by means of all the conditions subordinated one to another, to the unconditioned, even though the latter will never be reached. For the absolutely unconditioned is not encountered in experience at all.[387]

---

[385] Kant writes: "Thus the principle of reason is only a **rule**, prescribing a regress in the series of conditions for given appearances, in which regress it is never allowed to stop with an absolutely unconditioned. Thus it is not a principle of the possibility of experience and of the empirical cognition of objects of sense, hence not a principle of the understanding, for every experience is enclosed within its boundaries (conforming to the intuition in which it is given); nor is it a **constitutive principle** of reason for extending the concept of the world of sense beyond all possible experience; rather it is a principle of the greatest possible continuation and extension of experience, in accordance with which no empirical boundary would hold as an absolute boundary; thus it is a principle of reason which, as a **rule**, postulates what should be effected by us in the regress, but **does not anticipate** what is given in itself **in the object** prior to any regress" (*CPuR*, A509/B537).

[386] *CPuR*, A513/B541.

[387] *CPuR*, A510.

Thus the unconditioned takes the form of a world that has no determinate absolute boundary. Reason is nevertheless under the imperative to pursue the unconditioned and to do so by reiterating its mereologically-oriented regressive syntheses with every whole-object it introduces.[388]

In the case of physical matter, we start off with "a given whole in intuition," namely, the material body. Reason views the material body as "a given conditioned" for which it seeks a set of conditions in its pursuit of the unconditioned. This consists in following the rule of a progressive division of physical parts (to infinity).[389]

> If the whole has been empirically given, then it is **possible** to go back **to infinity** in the series of inner conditions. But if that whole is not given, but rather is first to be given only through an empirical regress, then I can say only that it is **possible** to progress to still higher conditions in the series **to infinity**. In the first [material body] case I could say: There are always more members there, and empirically given, than I reach through the regress (of decomposition); but in the second [series of ancestors] case I can say only: I can always go still further in the regress, because no member is empirically given as absolutely unconditioned, and thus a higher member may be admitted as possible and hence the inquiry after it may be admitted as necessary.[390]

---

[388] Kant writes: "In the former case it was necessary to **encounter** more members of the series, but in the latter case it is always necessary to **inquire** after more of them, because no experience is bounded absolutely. For you have either no perception that absolutely bounds your empirical regress, and then you must not hold your regress to be complete; or if you have such a perception bounding your series, then this cannot be a part of your regressive series (because that which **bounds** must be distinguished from **that which is bounded** by it), and so you have to continue your regress further to this condition, and so on" (*CPuR*, A515/B543).

[389] Kant writes: "But if each of the parts in a continuously progressing decomposition is once again divisible, then the division, i.e., the regress from conditioned to its condition, goes *in infinitum*; for the conditions (the parts) are contained in the conditioned itself, and since this conditioned is given as a whole in an intuition enclosed within its boundaries, the conditions all given along with it" (*CPuR*, A524/B552).

[390] *CPuR*, A514/B542.

For every bounded region of space we could make the same claim, namely, that "it is always necessary to inquire after more of them [more parts of space], because no experience is bounded absolutely." Every particular bounded region of space presupposes a larger (ambient) spatial whole *in which* it may be so bounded, and so on. It would appear that with regard to the cosmological ideas (namely, those operating in the first and second antinomies) reason appears to be interested in the possibility of representing whole-objects (in our representational field).

Kant appears to be concerned with linking reason's regressive syntheses with furthering the end of attaining "the complete concept of the object."

> Now in order to determine the sense of this rule of pure reason appropriately, it must first be noted that it cannot say what the object is, but only how the empirical regress is to be instituted so as to attain the complete concept of the object. For if the former were the case, then it would be a constitutive principle, the likes of which is never possible on the basis of pure reason.[391]

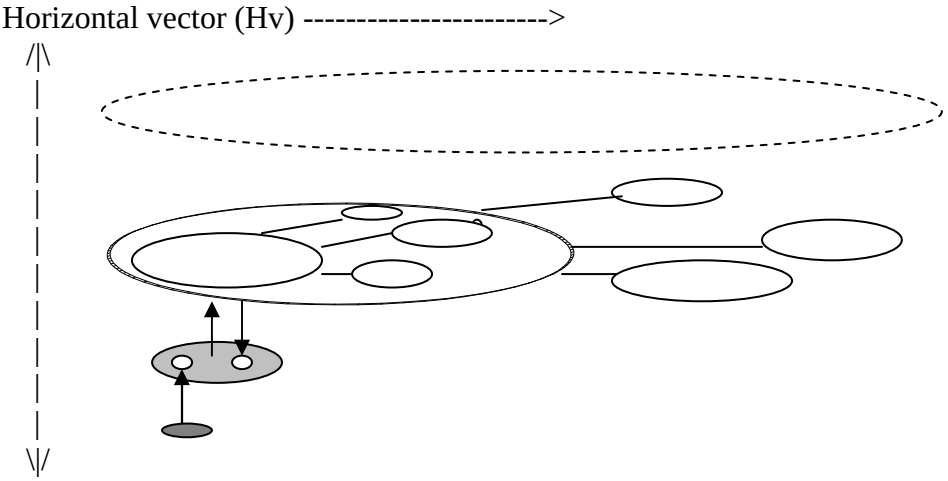
However, in sections 7-9 (of the Antinomy of Pure Reason), Kant's overall aim seems to be to conceptualize the formal requirements (ones that do not commit reason to any determinate empirical ontology) for "instituting" a *recursive system* of mereological structure in space as a homogeneous continuous quanta. The *necessity* of the recursive mereological construction appears to be due to certain a priori features of our representational systems, namely, that we represent (outer) phenomenal reality in space.[392]

---

[391] *CPuR*, A510/B538, underscoring added.

[392] Kant states: "This general reminder is, first, very easily applied to space. Every space intuited within its boundaries is such a whole, whose parts in every decomposition are in turn spaces, and it is therefore divisible to infinity. From this there also follows quite naturally the second

Diagram 11.6:



Let me make a number of preliminary observations concerning this hierarchy. First and foremost, it is a *compositional* hierarchy, one that the difference between higher and lower levels (superclass and subclass, genera and species) is one that is to be explicated in mereological terms. Notice, under its current representation, the compositional hierarchy exhibits two "vectors," namely the horizontal and the vertical. Entities positioned higher along the vertical vector (Vv) will be structured wholes with greater scalar properties than those positioned on lower levels. Second, notice that the world-whole is, under this model, a *recursive* system of structured wholes. This suggests, of course, that a relation of *nestedness* among a sum of structured wholes (rather like a set of Chinese boxes).

---

application, to an external appearances enclosed within its boundaries (a body). Its division is grounded on the divisibility of space, which constitutes the possibility of the body as an extended whole. The latter is thus divisible to infinity, without, however, therefore consisting of infinitely many parts" (*CPuR,* A525/B553).

I submit that regressive syntheses performed under the guidance of the cosmological ideas, take either of two related forms, namely, as recursive compositional analyses or recursive construction of structured wholes. Reason's pursuit of the unconditioned consequently proceeds either by a process of recursive decomposition, in which case it introduces divisions into a given bounded region, thereby successively generating more parts; or it proceeds oppositely by a process of recursive construction. In the former case, reason attempts to ground a given bounded region by reference to some set of underwriting parts, ones that it can therefore view as a set of *conditions* for that particular bounded region. In the later case, reason aims to *expand* its current spatial boundary to some larger structured whole, and it does so under the aim of computing the whole it constructs as an *object*, one in which a set of subsidiary parts are (necessarily) unified.

11.6.1 The Cognitive Significance of Mereologically-Oriented Regressive Syntheses

The notion of a *boundary* (specifically, a bounded region of space) is a necessary condition of object-oriented representation. This suggests that Kant's criteria for *objecthood* must be adjusted to certain a priori features of our representational systems, namely, space (and time). And since every region of space is divisible, it would seem that every spatial entity must, of necessity, be *composite* (insofar as it is spatial) and *singular* (insofar as it is an entity or thing). In other words, given the a priori constraints imposed by the nature of our representational field (that externality is explicated in terms of spatiality), it therefore seems that the

conditions of objecthood must be explicated accordingly. In 11.2 we saw that the rule for what is to *count* as a *singular object* (for us, anyway) would involve computing what shows up in our representational field as integrated *wholes* of one kind or another.[393]

In my research on Kant, I have found he acknowledges (at least) *three* possible ways to conceptualize a whole. (See Diagram below.)

Diagram 11.7: Three Conceptualizations of a Whole

Faculty Affiliate	Operative Concept	Conception of a Whole
1) Sensible Intuition	Space (As Continuous Quantum)	A bounded region of space
2) Understanding	Matter (As Discrete Quantum)	A mereological sum of parts
3) Reason	End (As System-Goal)	A systemic whole

Under a mereologically-oriented model of regressive synthesis, it would make sense for reason to be concerned with introducing boundaries into spatiomaterial continua, because Kant thinks that a material body's *individuality* is to be explicated in such terms.[394] Since any boundary introduced into the homogeneous spatiomaterial continua is (from the standpoint of the principle of sufficient reason) entirely contingent, reason must repeatedly ground the determinate bounded regions of space

[393] There is evidently linguistic data in support of this claim. According to Friederike Moltmann (1987): "The semantic 'count status' of the nouns in question is obvious also from the way a question such as How many things are there? Is answered. Generally, only entities that are integrated wholes are counted, not sums or parts of such entities which themselves lack integrity. However, what kinds of integrated wholes are counted is left unspecified; it depends entirely on the type of entity itself. ¶Thus nouns like *entity*, *unit*, *thing*, *piece*, and *part* do not fail to impose integrity, but rather impose *implicit integrity conditions*, which have to be provided by the nonlinguistic context. ¶There is one additional condition imposed by these nouns. They generally do not require just that the entities be integrated wholes in the relevant situation, but rather that they be *essential* integrated wholes. For one cannot refer to a quantity of wood that forms an accidental integrated whole (by being connected in space and time) as *the entity*, *the thing*, *the piece*, or *a part*. Given this, the noun *thing*, for example, will carry the following lexical condition: ¶ (36) *Semantic condition on* thing: For an entity *x* and a situation *s*, if $[\text{thing}]^{s}(x) = 1$, then *x* is an essential integrated whole in s" (Moltmann, 23).

it introduces by reference to a prior set of conditions. In view of the fact that all material objects are composite entities, reason's object-oriented concerns could plausibly be seen to be, first, with the *installation* of spatial boundaries (in experience) and, second, with *rationally stabilizing* these boundaries by reference to a set of underwriting parts, ones which are supposed to compose a given whole-object.[395]

However reason cannot begin to represent whole-objects (let alone determine at set of conditions under which they are possible) unless it can represent a set of parts under a conception of what something (an object) is supposed to be. To be able to do this however, reason would have to have some ontological conception of *completeness* (or, in Kant's terminology, "perfection") according to which it could determine where one material object ends and another begins. In fact, judgments of perfection, which are inherently normative, are (in the third critique) assimilated to "teleological judgments of reflection" because they presuppose the teleological concept of an *end*.[396] Reason cannot however perform its mereologically-oriented regressive syntheses unless and until it is able to phenomenally apply the distinction

---

[394] You can, for instance, find Kant doing so in the Amphiboly.

[395] Kant writes: "If I divide a whole that is given in intuition, then I go from a conditioned to the conditions of its possibility. The division of the parts (*subdivisio* or *decompositio*) is a regress in the series of these conditions. The absolute totality of this **series** would be given only when and if the regress could attain to **simple** parts. But if each of the parts in a continuously progressing decomposition is once again divisible, then the division, i.e., the regress from conditioned to its condition, goes *in infinitum*; for the conditions (the parts) are contained in the conditioned itself, and since this conditioned is given as a whole in an intuition enclosed within its boundaries, the conditions all given along with it" (*CPuR*, A524/B552).

[396] For Kant's discussion of this linkage see the *CPJ's* First Introduction (20:226-29). See also *CPJ* §10 and §16 for further explicit support on this linkage.

between a set of conditions and what a set of conditions are conditions for; which is to say reason's pursuit of the unconditioned appears in effect to be dead-in-the-water unless it is able to phenomenally apply the normative distinction between *that which composes* and *that which is supposed to be composed.* Suffice it to say, homogeneous spatiomaterial continua cannot ground this normative distinction.[397] We will return to this important issue shortly.

11.6.2 Ends As The Supersensible Grounds of Material Unity

Empirical intuition is an explanatory *datum*. The issue is over how to ground the fact that we do have *intuitional success*. The issue here is therefore not epistemic but explanatory, in that the concern is over how we can explain the objects that appear in our representational field. We succeed in intuiting singular individuals; therefore we must ('must' of hypothesis) succeed in completely intuiting material composites. Or, at any rate, what intuitional success implies is rather normative, that we have some cognitive line on what counts as a *complete* physical object -- a basis for deciding where an object begins and ends, where its boundaries are to be set.

---

[397] Kant seems to confirm this in the third critique: "For this concept [of a natural end] leads reason into an order of things entirely different from that of a mere mechanism of nature, which will here no longer satisfy us. An idea has to ground the possibility of the product of nature. However, since this is an absolute unity of the representation, while matter is a multitude of things, which by itself can provide no determinate unity of composition, if that unity of the idea is to even serve as the determining ground *a priori* of a natural law of the causality of such a form of the composite, then the end of nature must extend to **everything** that lies in its product. For once we have related such an effect in the **whole** to a supersensible determining ground beyond the blind mechanism of nature, we must also judge it entirely in accordance with this principle; and there is no ground for assuming that the form of such a thing is only partially dependent on the latter, for in such a case, in which heterogeneous principles are jumbled together, no secure rule for judging would remain at all" [*CPJ*, §66, 5:377, underscoring added).

Judgments of this type would depend, of course, on the *type* of object under consideration, whether artefactual or natural. This implies that we know, or have some cognitive criteria for judging, when an object is complete, when it requires no additional parts in order to be what it is supposed to be; alternatively, we know when an object fails to have enough parts.

A case in point—the exotic "glass frog." The glass frog is a semi-transparent organism, one whose internal composition can be viewed by an external observer. Like any other, the glass frog's heart, kidneys, brain, etc., are all situated within the bounded region of space enclosed by its body; therein the frog's internal composition is articulated into a multitude of parts. Now suppose that you conceptually negated the idea of a whole-frog. That is, suppose you negated that conceptualization in virtue of which the frog is one entity, namely, as an *agent*. Presumably, what you would have left is the frog's physical substrate (frog guts). Or would you?

It seems that (under the current scenario) concept-users would still be able to observe the parts (grasped merely as spatially demarcated entities), but they wouldn't know what they added up to or what their functions were (or whether they even *had* functions). Many organisms are morphologically similar, so even if you knew that you had *all* the parts, you still wouldn't know what they were the parts for (to say nothing of what they did or what their function is). And even if you knew you had all the relevant parts plus you knew what their functions were, this information would still semantically *underspecify* the kind of frog and probably underspecify the species of natural kind (meaning you might not be able to conclude from this information

alone that the parts were frog parts). Merely counting the number of parts wouldn't imply that they were the parts *of a frog* (let alone a glass frog).

Taking the route of the understanding (namely, of generating a mereological sum from a set of parts) would underspecify the material object under analysis. Again, if you don't know that the thing (whose parts are being considered) is supposed to be a frog (under normal semantic grasp of that term), on what basis (on what principled grounds) would you add or subtract parts? But none of these considerations really gets to the heart of the issue here, which is that when you conceptually negate the whole-frog (qua agent), you conceptually negate the very *reason* (or ground) for its material composition.

What's so *special* about a frog (or, for that matter, any natural organism) that makes it the single thing that a vast number of other entities are supposed to make possible? What is it about the whole-frog that makes *it* the entity that *ought to be* physically constituted (and thus made possible) by a plurality of other entities?

These questions have a distinctively normative feel. We don't dispute the empirical datum that it is the *frog* that a set of other entities (frog guts) are "supposed to" compose. While it is true of all of the frog's physical components that they exist concurrently with the frog and that each is, from a metaphysical standpoint, a countable substance in its own right, there is nevertheless the acknowledgement that the whole-frog is *the* physical object that nature intended for composition. It is the whole-frog that is metaphysically *out front*. As the singular object that a multitude of other entities are *supposed to* compose, these other entities are understood to exist for

the sake of *its* possibility. Any explanatory interest reason has in the frog's composition therefore seems parasitic on a prior acknowledgement of the whole-frog's genuine status as a singular (phenomenal) object. It is as if nature is *indicating* to reason what it is supposed to acknowledge as a singular object -- as a *node* of interactive structure. Consequently, in light of the fact that the whole-frog seems to be the primary object of representational interest, reason's interest in it would (indeed should) be to stabilize its boundary.

Under the scenario set up above, the descriptor ('the guts of a frog') would not have the same *meaning* it does for the concept-users in the scenario as it does for us, because the former do not have the concept of a whole-frog *qua agent* (thus as singular entity). But that's not all they lack. These concept-users lack the normative basis for thinking of the whole-frog as *that for the sake of which* a multitude of other (very unfroglike) entities are supposed to exist and, in addition, enter into composition relations, ones that (for Kant) are to explicated under the model of interaction. My present point is this: it seems that these concept-users would not be able to conceptualize the difference between the frog's physical substrate (frog guts) and the corresponding *superstrate* (the whole-frog as agent). And since concept-users could not conceptualize the difference between the whole-frog and its physical substrate, they could not conceptualize the difference between "a given conditioned" and "the set of conditions." But this distinction is internal to reason's pursuit of the unconditioned (via its mereologically-oriented regressive syntheses) and therefore crucial to the success of its object-oriented aims.

Reason's *motivation* for pursuing such connections is to maximize systematicity. Under my analysis, Kant's notion of rational systematicity exhibits an (underemphasized and underdeveloped) mereological dimension. And since to perform a mereologically-oriented regressive syntheses is, first, to relate one entity to certain others as a given conditioned to a set of conditions and, second, to do so under the aim of mereological construction, it seems to follow that if reason's enterprise presupposes some (implicit) mereological structure in the world, it must be of *the sort* that is *rationally intelligible*. I have explicitly characterized mereological dimension of rational systematicity in terms of (what I call) part-on-whole dependency (see 2.5 for details). Under this model of rational systematicity, a set of parts are defined by reference to a prior idea or conception of a whole. Moreover, this dependency (of the parts on the *idea* of a whole) is according to Kant one that can be grasped only by analogy to human intentional causation, namely, in our production of artifacts (see 2.8 for details).

In the third critique Kant analyzes the concept of perfection into two main components, namely, the concept of "what a thing is supposed to be" and the concept of an *end*. Elsewhere, in his transcendental definition of an 'end', Kant makes clear that an end provides the ground for "what an object is supposed to be:"

> Now as an end in general is that the **concept** of which can be regarded as the ground of the possibility of the object itself, thus in order to represent an objective purposiveness in a thing the concept of **what sort of thing it is supposed to be** must come first; and the agreement of the manifold in the thing with this concept (which supplies the rule for the combination of the manifold in it) is the **qualitative perfection** of a thing. **Quantitative** perfection, as the completeness of any thing in its own kind, is entirely distinct from this, and is a mere concept of magnitude (totality), in which

> **what the thing is supposed to be** is thought of as already determined and it is only asked whether **everything** that is requisite for it exists.[398]

The basic idea here is that judgments of perfection operate on the basis of an *end*, where an end is, in turn, determined by reference to a given whole of intuition. In the case of outer empirical-phenomenal reality, a given whole will be a material body. It is the whole object that is identified as the end and thus the whole-object is the target of composition. The whole object (whatever it is) constitutes the end or target of composition and thus provides the kind-specific conception of completeness. The whole-object embodies *in propria persona* a conception of what something is supposed to be, namely, in its being a whole of the sort that it is. Considered as an *end*, the whole-object is therefore *normative* for its own composition: it prescribes *itself* as the *target* of composition; which is to say that the parts, such as they are, can be viewed as so many necessary means toward the realization of a common (final) end, namely, of composing that particular sort of whole-object.

> To judge objective purposiveness we always require the concept of an end, and [if that purposiveness is not to be an external one (utility),but an internal one], we require the concept of an internal end, which contains the ground of the internal possibility of the object. Now as an end in general is that the concept of which can be regarded as the ground of the possibility of the object itself, thus in order to represent an objective purposiveness in a thing the concept of what sort of thing it is supposed to be must come first; and the agreement of the manifold in the thing with this concept (which supplies the rule for the combination of the manifold in it) is the qualitative perfection of a thing. Quantitative perfection, as the completeness of any thing in its own kind, is entirely distinct from this, and is a mere concept of magnitude (totality), in which what the thing is supposed to be is thought of as already

[398] *CPJ*, §15, 5:227-28.

> determined and it is only asked whether everything that is requisite for it exists.[399]

Viewed as an (relative) final end, a whole-object is conceptualized as something that prescribes itself as the target of composition. That object must be a structured whole (of the right kind), one where the parts depend on some (prior conception of) the whole. In executing its task of specifying a set of conditions for an empirically given conditioned, it appears that reason must perform a (mereologically-oriented) regressive synthesis on an object, such that its synthesis aims as grounding the object's composition. It seems to follow, then, that performing a regressive synthesis on an object amounts, first, to *targeting* an empirically given structured whole as given conditioned and, second, going about specifying a set of parts (under some model of their interconnection) as the conditions under which that whole is possible.

11.7 How A Hierarchic System of Structured Wholes Furthers Reason's Interest in Object-Oriented Representation

Since space (or a space) is never itself the object to be represented, the presentation of a bounded region of space (to the subject) is a sort of necessary means or by-product of the system's attempt to represent a singular object, namely, one that "fills" a bounded region of space. Since every bounded region of (matter-filled) space presupposes a larger region in which it is to be bounded, reason's object-orientedness would seem to mean computing these ever-larger spaces as ever-larger

---

[399] *CPJ*, 5:227-8.

whole-objects, ones that reason could determine a set of prior conditions for. In other words, the system must be able to compute these ever-larger spaces as *cases of* object-oriented representation.

Why would reason be motivated to continually *reiterate* the presupposition of a larger whole-object? As we have seen, reason is under the imperative to pursue the unconditioned (via its mereologically-oriented regressive syntheses) and to do so under a conception of the unconditioned according to which the world-whole has no determinate boundary. Thus without continually reinstating the presupposition of a larger (implicit) whole-object, reason could not continue its pursuit of the unconditioned because there would be no whole in reference to which a current set of whole-entities could be conceptualized as underwriting *parts* (i.e., as a set of conditions for a given conditioned). Reason's pursuit of the unconditioned would therefore (under this scenario) come to a definite halt, because it would not be able to convert a given conditioned (for which it had already determined a set of conditions) as an item itself membering in a set of conditions, ones that were directed at underwriting a whole-object of greater magnitude and so on.

Since reason must acknowledge that the world-whole has no determinate spatial boundary, its pursuit of the unconditioned (via mereologically-oriented regressive syntheses) can proceed to infinity; which is to say that there is no determinate whole-object that reason can *identify* as the world and subsequently consider its highest-order cognitive function (of representing the world) to be fulfilled. There is always an ever-larger whole-object to be represented, one that

incorporates all the rest so far encountered. In order to pursue its object-oriented goal (of representing the world-whole) to the next level, reason must therefore repeatedly presuppose the existence of an ever-larger whole-object, one that comprises a set of underwriting parts and, in addition, *prescribes itself* as the target of composition. In doing so, reason provides itself with an intentional object for its object-oriented representation and subsequently can link this object systematically with a plurality of other entities by viewing them in part/whole relations under a hierarchical system of structured wholes.

A number of issues arise here. For one thing, how (on what basis) does reason think there *exists* an ever-larger whole-object to be composed, one that prescribes itself as the target of composition. This issue is easily discharged, however. Reason's highest-order end (to represent a world-whole) is one that it undertakes in the context of transcendental idealism (not realism); which is to say that, the representation a world-whole is to be conceptualized as a system of cognitive directives, not content-bearers that designate mind-independent (extra-phenomenal) objects, whose objective reference relations reason is supposed to justify and establish. Reason can (and must) hypothesize an ever-larger whole-object because it is under the internal imperative to do so (for the sake of its highest-order end). Reason does not however have to *square* its intellectual imperatives (or its use of any t-idea) with a mind-independent reality for two reasons; first, because the t-ideas (when modeled as directives) have a directive of fit that is characteristic of practical

(not theoretical) reason. Directives inform us of what *ought* to be, not what *is*. According to Kant, however, experience informs us only of what is.

Second, reason's *use* of the t-ideas can be made to serve its "speculative" interests, provided that the latter are redefined intraphenomenally. In 2.3, we saw that reason's speculative interests (its interests in the cosmological ideas) could be made to serve its practical and architectonic interests. In the present chapter, the aim has been to provide a detailed model of how the t-ideas (with special focus on the cosmological ideas) could be made to subserve reason's architectonic interests. Under my analysis, the t-ideas are supposed to work *intraphenomenally* as guides for the empirical use of the understanding (see 2.1 and 11.1).

11.8 The World-Whole As A Multi-Level System of Interactive Structure

In the present chapter, I have argued that reason's pursuit of the unconditioned takes the form of its performing a certain type of mereologically-oriented regressive synthesis and, in addition, have interpreted reason's interest in doing so in terms of its interest in object-oriented representation. And since the phenomenal objects to which reason intentionally directs these regressive syntheses are spatially presented, a mereologically-oriented regressive synthesis consists in viewing a whole-object as "a given conditioned" and a set of underwriting parts as a set of prior conditions. Here reason's interest counts as object-oriented because it aims (via regressive syntheses) to rationally ground the determinate bounded regions of space it introduces into spatiomaterial continua and, in addition, because a material object's individuality is

explicated in just such terms. Moreover, since (according to Kant) the unconditioned can never be "encountered" in experience, it follows that reason's pursuit of it can never be completed, only approximated; in which case, reason's mereologically-oriented regressive syntheses take the form of constructing whole-objects of ever-larger magnitude and relating these in a system of structured wholes.

Over the course of its long career, the concept of reciprocal interaction has had various uses. In 11.3 we saw how interaction (encoded in the category of community) functioned as the conceptual substrate for the object-oriented empirical representation of space; moreover, we saw (in Chapter 3, 4 and 10) how Kant uses the concept of reciprocal interaction to explicate the ontological conception of a whole. In Chapter 6, I showed how reciprocal interaction was motivated by two opposing metaphysical concerns, that of engulfment and isolation, both of which conceptually negated the causal connectedness that Kant thinks is necessary for a plurality of existing entities to count as one world rather than a plurality of uni-membered metaphysically isolate worlds. There, we saw (in Chapter 6) how reciprocal interaction is used as a general conceptual template for the world's real (as opposed to ideal)[400] causal structure, one in virtue of which a multitude of substances can be conceptualized as members of one world.[401]

Here I propose that we consider these Kant-internal data in light of the interpretative framework proposed in Chapter 2, where theoretical reason's highest-

[400] In a first critique context, this terminology is retained but the meaning of these terms is altered. "Ideal' refers to the subjective forms of intuition (space and time) whereas 'real' refers to the conceptual (= categorial) conditions of experiential cognition.

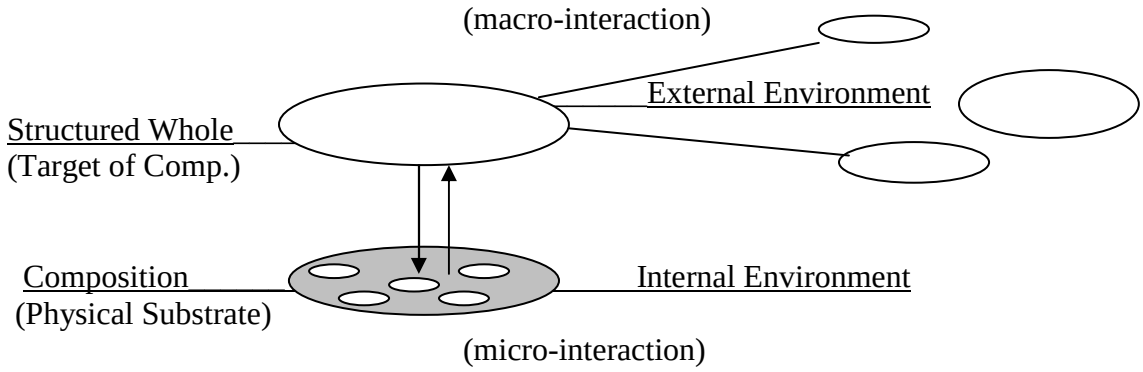
order aim is viewed as the representation of a world-whole. When we do so, it seems plausible to see Kant as using the construct of reciprocal interaction to explicate *composition* relations in terms of (a special type of) *causal* relation.[402] (In Chapters 7 and 8, I developed this model in considerable detail.)

According to Kant reason is under the imperative to realize its uber-principle, namely, to maximize systematicity (see 2.7). Since, under my analysis, the imperative to maximize systematicity is to be given its content both in light of Kant's analysis of the concept of a world and the mereological dimension of his account of rational systematicity, reason's interest in maximizing systematicity would seem to consist in an interest in maximizing mereological structure (of a certain sort). In light of the various uses to which Kant has put the construct of reciprocal interaction, it seems plausible to think that reason's interest in maximizing mereological structure would have to involve an interest in maximizing *interactive structure*. (See Diagram below.)

[401] In the *CPuR* this is most explicit in the Third Analogy.

[402] I discuss the point briefly in Chapter 6.

Diagram 11.8: A Multi-Level Explanatory Framework



The model of interaction, encoded in the category of community (CAT 3.3), would therefore appear to function within Kant's thought as the single conceptual template used to conceptualize whole-objects on *any* scale; that is, the model of interaction is the single model under which Kant conceptualizes intraphenomenal object-oriented structural complexity.

One can think about wholes in either of two ways, namely, as a *one* or as a *many*; as a singular entity or a set of parts linked within a causal structure. Of the two, interactive structure (consisting of multiple substances embedded in a causal structure) seems reasonably assimilated to the latter (compositional) meaning of the term 'whole'. In which case, the *other* conceptualization of a whole, namely, that of a singular entity, is the one under which interactive structures are to be *cognitively subsumed*. In order to construct a multi-grade hierarchy of structured wholes, it would appear that what is needed is a suitable conceptual framework, one that explanatorily *unites* a physical substrate to its superstrate. In the next section the aim is to argue that the functional value of Kant's physicoteleology (which incorporates

final causality) can be explicated in terms of how it provides an explanatory *bridge* between *members* and *models* of interactive structure.

Diagram 11.8B:

Hierarchy	Interactive Structure	Computed As
H-Axis	Members-of	Agent-Substances
V-Axis	Models-of	Physical Substrate

11.9 The Psychological Transcendental Idea As Interface Mechanism

I have argued that reason's highest-order cognitive end is to represent a world-whole and that it does so on three distinct levels (see 11.0).

(1) the level of individual objects (on the model of whole-entities)

(2) the level of individual structural complexes (ones made up of objects)

(3) the level of structural complexes (made up of other structural complexes) and so on.

In order to accomplish its highest-order end, reason follows a system of directives, ones that correspond to the three types of transcendental ideas (self, world, God).

Diagram 11.9:

T-Idea	Object-Oriented Directive Content
Self	Represent the world's parts on the model of individual agent-substances
World	Connect the world's singular parts in structural complexes (causal structures)
God	Connect all *possible* structural complexes under the *idea* of a world-whole

In order to represent a world-whole, reason has to generate structural complexes, ones composed of agent-substances (embedded in interactive structures). The procedure appears to be one in which reason starts by representing nodes and then combines these to form structural complexes. An important question arises here. Under my

analysis, reason's pursuit of the unconditioned (via its mereologically-oriented regressive syntheses) is one it undertakes in order to realize its highest-order objective to represent a world-whole. In that case, the conditions of the former apply to the latter. In 11.0 we saw that reason's pursuit of the unconditioned can never be completed (only approximated) and takes the form of constructing a hierarchic system of structured wholes.

As we have seen, nodes of interactive structure must be conceptualized on the model of agent-substances; moreover, reason must combine multiple nodes for the sake of generating structural complexes. But as we saw in 11.0, reason's motivation for performing (mereologically-oriented) regressive syntheses in its pursuit of the unconditioned is object-oriented. Via its mereologically-oriented regressive syntheses, reason's pursuit of the unconditioned amounts to its continually reinstating the presupposition of an ever-larger whole-object, one that comprises all prior ones.

And here we can take note of an interesting (and somewhat complicated) recursive pattern. Since its pursuit of mereologically-oriented regressive syntheses can never be completed (only approximated), reason must conceptualize this larger whole-object itself as a *node*, and then embed it in an interactive structure on a higher level. It must do so for two reasons. First, reason is *motivated* to do so because, being under the imperative to represent a world-whole, it must generate successively higher levels of structural complexity. And since objecthood is defined in mereological terms (according to which objects are wholes) and since, in addition, the generation of structural complexity subserves reason's interest in object-oriented

representation, interactive structure must (somehow) be *cognitively subsumed* under the conception of a ever-larger whole-object. In other words, structural complexity is not an end in itself but rather the cognitive *means* taken to represent ever-larger whole-objects.

One can think about wholes in either of two ways, namely, as a *one* or as a *many*; as a singular entity or a set of parts linked within a causal structure. Of the two, we saw that interactive structure (being constituted by multiple substances) seems plausibly assimilated to the latter (compositional) meaning of the term 'whole'. In which case, the other conceptualization of a whole, namely, that of a singular entity, is the one under which interactive structures are to be cognitively subsumed.

Since reason is always under the directive to construct an ever-larger whole-object and since, in addition, its interest in structural complexity is as a means to that cognitive end, it would seem that reason's interest in structural complexity is to be taken (by reason itself) to reflect its interest in representing the *internal composition* of an ever-larger whole-object.

In light of its directives, it would appear that reason's generation of structural complexity is to be viewed as its *aiming at* the construction of an ever-larger whole-object. This means that the ever-larger whole-objects that reason constructs must, in each case, be able to fit into an ever-larger structural complex in which that whole-object is itself a *node*; which is to say that a node must be conceptualized as a whole in the sense of being a singular object, one that is itself a *part* of an ever-larger whole-object. And since a whole's structural complexity is to be explicated as causal

structure (specifically, interactive structure), nodes must be conceptualized under the model of interaction. Under that model, nodes do not exist in a causal vacuum. Rather they must be conceptualized as interdependent causal agents.

As we have seen in Chapters 7 and 8, an interactive structure consists of multiple substances whose (externally and internally-directed) causal powers have been *reciprocally* coordinated or harmonized. Let x and y be two substances. Then, x's externally-directed causal powers are efficacious (in regards to y) only on the condition that y has a correlative set of affective capacities, ones that produce effects (in y) which correspond to x's (externally-directed) causal powers.[403] Moreover, in 8.5-6 I argued that, of the two, it is the externally-directed causal powers that are more expressive of a (material) substance's agency. And since Kant models substances on agents, this conclusion implies that x and y are mutually dependent on the other for their substancehood. For present purposes, the point is that interactive structure (= the reciprocal coordination of causal powers) appears to be that in virtue of which multiple substances can have any (externally-directed) causal efficacy. This implies, I think, that there can be no causally *isolated* agent-substances; where there is one, there must be others with which it can causally interact (see 8.5).

If this is so, then for every larger whole-object reason constructs there must be some (implicit) higher-level interactive structure *into which* it must fit, one in reference to which the whole-object's causal powers are to be semantically explicated. For it is on this level that the exercise of a substance's (externally-

[403] The same claim could be re-asserted in reference to y.

directed) causal powers are to be staged and played out (see 8.6); however, it may do so, as we have seen, only if there are other substances suited to interact with it. Notice how, under the model of interaction (specifically how agent-substances are metaphysical interdependent) reason is *driven* to hypothesize the existence of *multiple* coordinated entities on any given level of interactive structure.

Now if reason's interest in structural complexity is as a means to the end of constructing ever-larger whole-objects and since, in addition, every whole-object's internal composition is to be explicated as interactive structure, it seems that a hierarchical system of whole-objects would entail a multi-level system of interactive structure. As remarked, reason's interest in such a system reflects its highest-order aim to represent a world-whole. Moreover, in view of the fact that every level of interactive structure is to be computed (by reason itself) as the internal composition of an ever-larger whole-object (one it is aiming to represent), it would appear that every interactive structure would necessarily belong to some whole-object and, for this reason, all interactive structures would therefore belong to the same world-whole.

In 2.5 I argued that rational systematicity (explicated as a certain type of mereological structure) is goal-directed and so presupposes the concept of an *end* (see 2.5). Moreover, I have indicated that the characteristic of rational systematicity (in its mereological dimension) is that of part-on-whole dependency. In Chapter 5, I drew attention to Kant's use of reciprocal interaction as the basis for concept-users to make a certain sort of explanatory inference, one which proceeds *from* a plurality of entities embedded in interactive structure *to* the presupposition of the *idea* or conception of a

larger whole. (I called this inference (A)). We saw Kant using this same sort of inferential structure in the third critique (see 10.6), specifically in the context of his intentional explanation of natural teleology (= organisms as natural systems). According to Kant, an explanatory inference of this sort could be made, however, only on the presupposition of physicoteleology, because ends are inherently rational and "natural ends" cannot be causally credited to human beings or to the activity of material nature but only to a supreme intelligence (God). (See 2.8 for a discussion of the functional value of physicoteleology.)

Interactive structures are made up of coordinated substances, but they themselves are not substances. So they themselves cannot exercise (since they do not possess) causal powers. Only substances (conceptualized on the model of agents) can possess and exercise causal powers. This poses a problem for reason. For if the model of interaction is an all-purpose conceptual template, one under which the world's structural complexity is to be explicated -- if, in other words, this model conceptually prescribes the terms under which two or more entities may be thought of as individual nodes of a causal structure (and so parts of one world-whole) -- then it would appear that a multitude of interactive structures (qua structures) could not be connected in one world. For interactive structures (qua structure) are not themselves causal interactants.

Let me make this problem somewhat more intuitive. Consider, once again, the exotic "glass frog." The glass frog is a semi-transparent organism, one whose internal composition can be viewed by an external observer. Suppose you were to

conceptually negate the idea of the whole-frog, considered as a singular entity, an agent-substance. What would remain? A multitude of (very unfroglike) entities, none of which have the causal powers of a whole-frog (since they are supposed to make those very powers physically possible).[404] So none of these entities by themselves (or as a collective of frog guts) can interact with the external environment in the way a whole-frog can. The whole-frog's business is transacted on *the semantically relevant level of description*, one which is distinct from that of its neurophysiological substrate. When you conceptually negate the idea of whole-frog (conceptualized under the idea of an agent), you therefore semantically erase the frog's substancehood and, in doing so, negate the means to uplink its physical substrate to the frog's external environment; in other words, you conceptually negate the means to connect interactive structures on lower levels (those belonging to the frog's composition) to higher-level ones.

What reason needs, I suggest, is an *interface mechanism*, one that (as it were) puts an *agential face* on interactive structure. Let me explain. The function of an interface mechanism would be to link multiple interactive structures together; which is to say that it should make it possible to link lower-level interactive structures to higher-level whole-objects and (by this object-oriented means) connect interactive structures on lower levels to higher ones. And since, under the model of interaction, the nodes of interactive structures are agent-substances, it would appear that an interface mechanism must make it possible for reason to *convert* its representation of

[404] See 8.6 for a more lengthy discussion of this point.

structural complexity into the representation of a singular object (a node of causal structure).

In order for reason to uplink lower-level interactive structures to higher-level ones, it must first cognitively subsume a lower-level interactive structure under the conception of a ever-larger whole-object, one conceptualized as a singular object. But in order to do this, reason must be able to view this whole-object as an *end*, one that prescribes itself as the target of composition. I submit that it is the psychological t-idea of an agent that functions as an interface mechanism, and that it does so by conceptually mediating reason's cognitive subsumption of interactive structures under the concept of a whole-object.

> In order to <u>see that</u> a thing is possible only as an end, i.e., that the causality of its origin must be sought not in the mechanism of nature, but in a cause whose productive capacity is determined by concepts, it is necessary that its form not be possible in accordance with mere natural laws, i.e., ones that can be cognized by us through the understanding, applied to objects of the senses, alone; rather even empirical cognition of their cause and effect presupposes concepts of reason.[405]

In 2.7 I argued that the I/self/agent idea (an idea of reason) provided the in terms in which to compute singular cognition. More precisely, I argued that since singular objects could not be conceptualized under the concept of a metaphysically simple entity, there had to be a surrogate formula under which to compute singular objects. The concept of a substance prescribes simplicity (to all members of its extension) as a discursive route to computing their singularity or individuality. I suggested, however,

[405] *CPJ*, 5:370, underscoring added.

that reason could acknowledge the compositeness of every whole-object in empirical-phenomenal reality (which is necessary spatial), while viewing singular objects under a surrogate formula of singularity understood as necessary unity. But the psychological t-idea of an agent cannot accomplish the conversion of structural complexity into the representation of a singular object single-handedly; rather, it relies on final causality, an intentional explanatory framework derived from Kant's physicoteleology.

And it is precisely at this juncture that Kant's concept of a natural end may be functionally introduced. The ground of a material composite's necessary unity is the concept of an *natural end*, namely, the concept of a whole-object that prescribes itself as the target of composition (see 10.4-5).

> A teleological judgment compares the concept of a product of nature as it is with one of what it ought to be. Here the judging of its possibility is grounded in a concept (of the end) that precedes it *a priori*. There is no difficulty in representing the possibility of products of art in such a way. But to think of a product of nature that there is something that it ought to be and then to judge whether it really is so already presupposes a principle that could not be drawn from experience (which teaches only what things are).[406]

Here (in 2.7) I suggested that from the standpoint of practical reason we (as rational agents) are entitled to view our phenomenal selves (that is, our physical bodies) as singular objects because these are our instruments of causal efficacy and therefore moral enactment. When we view ourselves (as natural organisms) under the psychological t-idea of an agent (as morality categorically demands) we must view our embodied selves as natural systems able to meet the conditions of agenthood --

[406] *CPJ*, First Introduction, X, 20:240.

namely, singularity. To that end, we must view our bodies as *one* whole-object, as an end-in-itself for the sake of whose necessary unity a set of underwriting conditions must be provided.

11.10 Conclusion: The Cognitive Significance of Natural Organisms (Natural Teleology)

The cognitive significance of natural organisms is that they constitute a class of natural phenomena whose members exhibit an interesting (and cognitively useful) *ambiguity*, one that corresponds to the two conceptualizations of a whole: on the one hand they are material composites; on the other they are singular entities, ones which exhibit causal agency. Since we are ourselves natural organisms, ones who are also self-aware (as pure moral consciousnesses), Kant thinks that we can (and indeed must) think of ourselves under the psychological t-idea of a agent and thus view our physical bodies as natural ends. It is therefore on the basis of this necessary a priori postulate (of our own causal agency) that we can apply the psychological t-idea in our own case.

> Even the organism is contained in the consciousness of oneself. The subject makes its own form in accordance with a priori purposes.[407]

Since according to Kant the world was ultimately created *for us* (as a domain in

[407] *OP*, 22:78-9.

which to stage our moral enactment[408]) and since, in addition, we are (as rational agents) unique in that we are the *only* species of natural organism capable of *moral* agency, it seems entirely contingent that there would be a vast multitude of nonhuman species of organism. Frogs, flies, and bacterial flagella are not capable of moral enactment; they are not capable of pursuing a morally-endorsed happiness. The world doesn't exist for them. So why are they here? According to Kant, nature's mereocosmic structure is to be modeled on the internal structure of individual organisms (see §§67-8). Under that model, however, every component part of nature would be "indispensible" and therefore necessary (see §66). In light of Kant's specification of nature's absolute final end (that it was created for us), it seems reasonable to ask whether there is some purpose that the vast numbers of nonhuman organisms are supposed to serve, one that is teleologically linked to the ends of human reason?

[408] See §§82-84 of the third critique. Kant's reasoning in these sections is more complicated than it is being represented here. In these sections, Kant seems to be acknowledging that nature must have an absolute final end (AFE). If nature is to constitute a *system* of ends, there must be an absolute final end such that it is the single shared system-goal, one in reference to which every other end in nature must be viewed as a subordinate means; however it is specified, the AFE must meet two conceptual requirements: it must be absolutely final (an end-in-itself) and consequently supersensible. Since the AFE cannot be located in nature (and so, on that account, must be supersensible) and since moral freedom -- an a priori postulate based on a datum of pure practical reason, namely, the categorical imperative -- is the only thing we can conceive as an end-in-itself, reason must identify moral freedom (rational autonomy) as the AFE. Here Kant seems to distinguish between the cognition of the datum of pure practical reason (the moral law) from the concept of "the highest good in the world," the latter evidently containing empirical content because it is explicated as a morally-endorsed happiness. To further complicate matters, Kant also distinguishes an "ultimate final end" of nature (UFE), which is in fact subordinate to the AFE. Civil states (where human beings are subject to laws) serve to prepare us for moral enactment. Human society and culture provides the conditions under which we can develop the capacity to regulate our "sensuous natures" according to civic laws. By providing a culture in which to develop this norm-governed self-regulation, political societies are subserving the AFE.

One (rather obvious) response to this question would be to point out that other organisms (as well as inorganic natural kinds) serve the moral interests of practical reason.[409] Human beings survive by consuming plants and animals; our bodies would die without oxygen. Our political, legal, and religious institutions require edifices for their operation. We rely on nature's raw inorganic materials to pave our roads and erect our skyscrapers. Nature must therefore generally be the sort of place where human ends are *actionable*. To be able to pursue our ends (whether moral or immoral) in the world, we must be able to interact causally with the things that are in it; consequently the world's natural kinds, both organic and inorganic, must be made amenable to such human interaction.

The above response explicates the purposiveness of nonhuman organisms in relation to practical reason's interest in moral enactment. But I hope to have made plausible a response a different sort, one that recognizes the interests of theoretical reason. As we have seen, in performing its (mereologically-oriented) regressive syntheses, reason introduces boundaries into spatiomaterial continua for the sake of its object-oriented representation and, in addition, subsequently attempts to stabilize these boundaries by thinking means-end relationships between a set of underwriting parts and a given whole-object, one that prescribes itself as the *target* of composition. Under this analysis, reason's mereologically-oriented regressive syntheses would therefore seem to consist in thinking *teleological connections* among the vast

---

[409] Under the morality-oriented reading of the significance of the third critique is often explicated in terms of practical reason's interest in the possibility conditions for moral enactment (see 1.3).

numbers of natural kinds. In light of reason's highest-order end to represent a mereocosmic whole, nature's inclusion of natural organisms (and the coordinated natural systems in which they interact) appears to us as a kind of *cognitive purposiveness* in that it furthers reason's interest in object-oriented representation.

In the terms of the preceding analysis (see 11.9), it's as if something has made it possible for reason to implement an *interface mechanism* (as represented by the psychological t-idea) in the service of its aim to represent a the world as one whole. As remarked, natural organisms constitute a very special class of natural product in that they can be viewed as a one and as a many, as a singular object and as a set of interacting parts. It is owing to this semantic ambiguity (of being singular objects that prescribe their own composition) that reason is empirically presented with an amenable object-oriented format in which it can cognitively subsume lower-level interactive structures under higher-level ones. Reason's being able to do so consists in its being able to represent interactive structure as the *physical substrate* of a (higher-level) singular object, the latter being one that reason is, in turn, interested to represent as a *node* of interactive structure. As we have seen, reason must be able to *convert* the representation of interactive structure into the representation of a singular object. It may do so, however, under an alternative formula according to which a singular object is a whole-object.

In order to accomplish its representation of a material composite as a singular object (under this alternative formula), reason must also rely on *final causality*. That is, in order to view a material composite as one whole-object, reason must be able to

take an explanatory angle on that composite entity, one where it views the whole-object as the *effect* of prior combinatorial processes. Without an alternative formula for singular objects, however, such combinatorial processes would be entirely unguided. For there would be no single target of composition, not, at any rate, one in reference to which a set of underwriting parts is *supposed to be* viewed as physical substrate. The alternative formula (for singular objects) must therefore be such that, when a material composite is subsumed under it, the former is viewed as one single thing that prescribes itself as the target of composition. It is, I suggest, by being represented under the psychological t-idea of an agent that a material composite can (and indeed must) be represented as *one* whole-object; that it *must* be so represented is owing to the fact that, when it (the material composite) is subsumed under the psychological t-idea, it conceptually inherits the characterization of being an *end-in-itself* as a consequence of this subsumption.[410]

In 2.9 I noted that Kant seems to have a largely implicit view of the semantics concerning the term 'natural organism'. Kant's view of the meaning of the term 'organism' seems to be that we, as concept-users, are not able to *cognitively compute* its semantic value independently of some vital reference to the subjective structures of our own rational agency.[411] We, as embodied natural systems, are able to put *ourselves* under the perspective of being agents (thanks to our pure moral

[410] Here I am describing the conceptual mechanics of the cognitive subsumption under consideration not the epistemic basis of (or warrant for) that subsumption. In other words, I'm concerned purely with conceptual dependency relations between two or more conceptual contents and not with the epistemic bases for the cognitive judgments that use them. For parallel discussions on the epistemic issue, see also 2.7 and 11.9.

consciousness). And from the fact that we can take this *agential angle* on our phenomenal selves we are able to derive both an understanding of and the basis for singular cognition.[412] But Kant insists that the agential angle is not itself derived from the experience of a phenomenal self; rather it is in virtue of this agential angle, which is conceptually prior, that we can represent our physical bodies (which are necessarily composite) as a single phenomenal self.[413]

I submit (as Kant's view) that this agential angle both expresses the psychological t-idea of pure reason and, in addition, provides the semantic model in terms of which singular objecthood is to be generally understood. It is within this interpretative framework that I wish now to state the cognitive significance of natural organisms. It is this: The cognitive significance of natural organisms is, I suggest, that they appear to us as intraphenomenal objects (or representata), which are of

---

[411] Although I cannot pursue it here, there seems to be some further semantic issues here. It seems that natural organisms are not known from the parts up then subsequently as material composite; rather, we view them as singular objects first and then undertake to determine their compositional properties (their physical substrate). The concept of a natural organism seems to exhibit an *order* among its intensional components in that *semantic primacy* is given to their characterization as singular individuals. In order to succeed in referring to an organism, concept-users' must view the intended referent under the description of a singular object. However since (according to Kant) spatiomaterial continua cannot ground the required subsumption of singularity, two issues arise here: First, there is the issue over *how* to underwrite the judgment of singularity and, second, there is the further issue over *what it is* about natural organisms such that they *must* be viewed as singular objects. Both issues have been discussed. For Kant the first issue is to be addressed in terms of final causality (see 11.6). Kant's answer to the second issue, which seems largely semantic, is sketched in the present paragraph.

[412] This has to be nuanced with care, however. According to Kant we cannot have speculative cognition of a transcendental subject (see 2.7). The "basis" I'm referring to is semantic, one that is instituted for the purposes of intraphenomenal singular cognition. The a priori consciousness of the categorical imperative does not, on Kant's view, entitle reason to speculative knowledge of a transcendental subject; rather it only entitles (or, at any rate, pragmatically necessitates) the postulation of one.

[413] For an illuminating analysis of the unity of persons in similar Kantian terms see Christine Korsgaard's (1996) "Personal Identity and The Unity of Agency: A Kantian Response To Parfit."

incalculable number and diversity, and which are generally amenable to (indeed semantically necessitate) the empirical use of reason's psychological t-idea of an agent.[414]

When we acknowledge the vast multitude of nonhuman organisms in light of reason's cognitive need for systematicity, we perceive how *suited* nature is to that need. It seems to us as if *something* (outside nature)[415] has aimed to make it intraphenomenally possible for us to generalize (by analogy) our conception of agenthood[416] to countless other entities in nature and, by that means, has made it possible for (our) reason to represent countless nodes of interactive structure. Here it is as if nature is indicating to us what we, as cognitive systems, are *supposed to* regard as singular objects. Since the causal powers of every node must be reciprocally coordinated with those of other nodes, it seems, in addition, as if organisms (and their encompassing environments) constitute *natural systems*, ones that are especially amenable to the understanding's category of community (see 11.3). Here it is as if nature is assisting our cognitive systems in the construction of ever-greater levels of structural complexity. And through the use of an interface mechanism (see 11.9), these natural systems can be hierarchically-ordered, thereby allowing reason to construct a multi-grade system of interactive structure, one in

---

[414] By analogy with ourselves. See also 2.7 and 2.9 for more discussion of Kant's claim that we must conceive of natural organisms in the subjective terms of our own intentional agency.

[415] Or, in Kant's terminology, "the supersensible substrate of nature." Kant explicitly says that nature cannot have aims or intentions and so reason must postulate a supersensible substrate (= God) that could account for the teleological structure exhibited in nature.

which multiple whole-objects are simultaneously *coordinated* and *subordinated* to one another.[417]

As we have seen, when a material composite is viewed under the psychological t-idea, it conceptually inherits the conceptualization as an end-in-itself, or, in Kant's terminology, it is to be viewed as a natural end. Since organisms are *natural products*, not human artifacts, the intentional cause cannot be human (or anything in nature). So viewing a suitable material composite under the concept of a natural end requires the postulation of an extra-phenomenal[418] ground, which, in turn, implicates Kant's physicoteleology. In the third critique Kant makes the dependency of organisms on final causality explicit. In referring to an organism, Kant says that

> there is some intentional ground of its existence (as a contingent natural being), and this thought is difficult to separate from the concept of an organized being: for once we have had to base its internal possibility in a causality of final causes and an idea that underlies this, we also cannot conceive of the existence of this product otherwise than as an end. For the represented effect, the representation of which is at the same time the

---

[416] Or, equivalently, our self-referent model of substancehood as represented in the psychological t-idea of the self.

[417] In *OP*, Kant writes: "Space and time, as subjective forms, not as objects of the intuition of the *a priori* given manifold in appearance, are not derivative cognitions (*repraesentatio derivata*) but given originally in representation (*repraesentatio primaria*); they are thought as the unconditional synthetic unity of the manifold, and their complex as an infinite whole, in which perceptions (empirical representations with consciousness) are thought of as in a system -- that is *coordinated* and *subordinated* according to the principles of the possibility of experience" (*OP*, 22:451, underscoring added).

[418] In the third critique Kant's term for this is "supersensible." For a succinct statement of the need for a supersensible underwriter of material unity in the third critique, see §66. Later, in *OP*, Kant describes the underwriting ground of natural organisms as "immaterial: "Organized bodies (which are not just matter) indicate an immaterial principle, and, insofar as organization extends through all parts of the world (transforming bodies and replacing dead ones with new formations in their place) indicate an *anima mundi*. The latter, however, may not be represented as a thinking being (spiritus), but, at most, as *anima bruta*; for, without this, purposive generation cannot, I will not say be explained, but be thought at all" (*OP*, 22:504, underscoring added).

> determining ground of its production in an intelligently acting cause, is called an end.[419]

Later, in *OP*, Kant appears to maintain a similar view of the dependency relation between an organism's composition and final causality:

> There is no spontaneity in the organization of matter but only receptivity from an immaterial principle of the formation of matter into bodies, which indicates [*geht auf*] the universe, and contains a thoroughgoing relation of means to ends. An understanding (which, however, is not a world-soul) [is] the principle *of the system, not a principle of aggregation*.[420]

Operating under the hypothesis that nature consists in an (implicit) hierarchy of ever-larger structured wholes, one in which each successive whole-object conforms to a prior *idea* of it, would according to Kant be equivalent to viewing nature as *a system of ends*.[421] In the Appendix to the Dialectic (of the first critique), Kant states:

> The highest formal unity that alone rests on concepts of reason is the purposive unity of things; and the speculative interests of reason makes it necessary to regard every ordinance in the world as if it had sprouted from the intention of a highest reason. Such a principle, namely, opens up for our reason as applied to the field of experience, entirely new prospects for connecting up things in the world in accordance with teleological laws, and thereby attaining to the greatest systematic unity among them. The presupposition of a supreme intelligence, as the sole cause of the world-whole, can therefore always be useful to reason and never harmful to it.[422]

In view of the world's *global* teleological structure, it would therefore seem necessary

---

[419] *CPJ*, 5:426, underscoring added.

[420] *OP*, 22:78, italics added.

[421] For a brief clarification of why Kant says concept-guided causation is teleological (relying on ends), see the Preface; for more detailed discussion see 5.4 and 11.6.2. See also §10 of the third critique for Kant's transcendental definition of an end.

[422] *CPuR*, A687/B715.

to postulate a suitable *cause*, one that is both external and rational—"external" because it must not itself be positioned *within* phenomenal nature's hierarchy of structured wholes and "rational" because it must be capable of intentional causation (= producing effects under the guidence of concepts).[423]

> For although God's understanding, which cognizes everything intuitively, the whole is a whole fundamentally only insofar as it consists of every particular; for this, consequently, divine providence is also completely universal, in the sense that it includes every individual in its plan; but it would be perverse of us and contrary to discursive reason if we too tried to rise from the particular directly to the universal and survey the whole. The nature of our reason lays on us the duty of first reflecting on general laws and then, as far as possible, of grasping every individual and then every species under them, and in such a way of forming some sketch of the whole, which is to be sure very defective, but nevertheless sufficient for our needs.[424]

It would appear that reason's object-oriented enterprise of constructing a mereocosmic system of whole-objects presupposes a holistic standpoint on nature, one according to which the experiencer views himself as the rational consumer of a superior someone's (God's) practical intentionality (see 2.9 for details). Under this scenario, reason could view the world-whole as being entirely subject to a system of

---

[423] In *Metaphysik L*, Kant writes: "The singularity of the world cannot be proven *a priori* from the concept of the world. For though we say the world is a substantial composite <*compositum substantiale*> where the substances stand in interaction <in *commercio*>, it clearly must then follow that this world constitutes a whole which is no part of another; but this does not refute that there could still be several such wholes in which an interaction <*commercium*> is to be met. -- Thus the oneness of the world does not follow from its concept. But the oneness can be demonstrated from another ground, which is the following: if all things except one exist so that they all depend on the one, then it must follow that all existing substances except one are connected, and all together constitute a whole because they depend on one. It would thus *follow* from the communal [cause] and from *a highest cause that there is only one single world*, which will be demonstrated in the following. Thus in no way does the oneness of the world flow from its concept" (*LM, Metaphysik L*, 28:197, underscoring added).

[424] Immanuel Kant, *Religion and Rational Theology*, ed. and trans. Alan Wood and George Di Giovanni , (Cambridge University Press, 1996), 28:1115.

hypothetical compositional imperatives. Such a system would consist in viewing higher and lower whole-objects as existing concurrently in one world as well as being recursively subordinated to each other. Lower-level whole-objects would be subordinate to higher-levels ones and their subordination could be modeled teleologically, namely, as a set of means that were intended to subserve a higher-order compositional end, one that is represented by an ever-larger whole-object. By such means, reason is consequently able to realize its object-oriented aim of representing the world as one necessarily unified structured super-object.

BIBLIOGRAPHY

Abela, Paul. *Kant's Empirical Realism*. Oxford University Press, 2002.

Allison, Henry E. *Kant's Transcendental Idealism*. New Haven: Yale University Press, 1983.

_____. "Kant's Antinomy of Teleological Judgment." In *Kant's Critique of the Power of Judgment: Critical Essays*, edited by Paul Guyer, 219-236. Rowman and Littlefield Publishers, Inc., 2003.

_____. "Is the *Critique of Judgment* 'Post-Critical'"?" In *The Reception of Kant's Critical Philosophy: Fichte, Schelling, and Hegel*, edited by Sally Sedgwick, 78-92. Cambridge University Press, 2000.

Bird, Graham. *The Revolutionary Kant*. Open Court Press, 2006.

Bird, Graham, ed. *A Companion To Kant*. Wiley-Blackwell Publishers, 2009.

Brandt, Reinhard. "The Deductions in the *Critique of Judgment*." In *Kant's Transcendental Deductions*, edited by Eckart Forster, 177-192. Stanford University Press, 1989.

Brook, Andrew. *Kant and the Mind*. Cambridge University Press, 1994.

Burge, Tyler. *Origins of Objectivity*. Oxford University Press, 2010.

Robert Casato and Achille C. Varza. *Parts and Places: The Structure of Spatial Representation*. MIT Press, 1999.

Cassirer, H. W. *A Commentary on Kant's Critique of Judgment*. Barnes and Noble, 1970.

Crawford, Donald W. (2003) "Kant's Theory of Creative Imagination." In *Kant's Critique of the Power of Judgment: Critical Essays*, edited by Paul Guyer, 143-170. Rowman and Littlefield, 2003.

Crawford, Donald W. *Kant's Aesthetic Theory*. University of Wisconsin Press, 1974

Dennett, Daniel C. *The Intentional Stance*. MIT Press, 1989.

Dickerson, A. B. *Kant On Representation and Objectivity*. Cambridge University Press, 2004.

Edwards, Jeffrey. *Substance, Force, and the Possibility of Knowledge*. University of California Press, 2000.

Forster, Eckart, ed. *Kant's Transcendental Deductions*. Stanford University Press, 1989.

Ginsborg, Hannah. "Kant's Biological Teleology and Its Philosophical Significance." In *A Companion To Kant,* edited by Graham Bird, 455-470. Wiley-Blackwell Publishers, 2009.

_____. *The Role of Taste in Kant's Theory of Cognition*, Garland Publishing, 1990.

Gracia, Jorge J. E. *Individuality*, SUNY Press, 1988.

Grier, Michelle. *Kant's Doctrine of Transcendental Illusion*. Cambridge University Press, 2001.

Guyer, Paul, ed. *Kant's Critique of the Power of Judgment*. Rowman and Littlefield, 2003.

_____. *Kant's System of Nature and Freedom*. Oxford University Press, 2005.

_____. *Kant and the Claims of Taste*. Cambridge University Press, 1997.

_____. "The Unity of Nature and Freedom: Kant's Conception of the System of Philosophy." In *The Reception of Kant's Critical Philosophy*, edited by Sally Sedgwick, 19-53. Cambridge University Press, 2000.

_____. "Organisms and the Unity of Science." In *Kant and the Sciences*, edited by Eric Watkins, 259-282. Oxford University Press, 2001.

_____. "Kant's Principles of Reflecting Judgment." In *Kant's Critique of the Power of Judgment: Critical Essays,* edited by Paul Guyer, 1-62. Rowman and Littlefield, 2003.

_____. "Bridging the Gulf: Kant's Project in the Third *Critique*." In *A Companion To Kant*, edited by Graham Bird, 423-440. Cambridge University Press, 2009.

Horstmann, Rolf-Peter. "Why Must There Be a Transcendental Deduction in Kant's *Critique of Judgment*?" In *Kant's Transcendental Deductions*, edited by Eckart Forster, 157-176. Stanford University Press, 1989.

Hughes, Fiona. *Kant's Epistemic Epistemology*. Edinburgh University Press, 2007.

Kant, Immanuel. *Critique of Pure Reason*. In *The Cambridge Edition of the Works of Immanuel Kant*, translated and edited by Paul Guyer and Allan Wood. Cambridge: Cambridge University Press, 1999.

_____. *Critique of the Power of Judgment*. In *The Cambridge Edition of the Works of Immanuel Kant*, edited by Paul Guyer and translated by Paul Guyer and Eric Matthews. Cambridge: Cambridge University Press, 2001.

_____. *Lectures on Metaphysics*. In *The Cambridge Edition of the Works of Immanuel Kant*, edited and translated by Karl Ameriks and Steve Naragon. Cambridge: Cambridge University Press, 1997.

_____. *Notes and Fragments*. In *The Cambridge Edition of the Works of Immanuel Kant*, translated by Curtis Bowman and Frederick Rauscher. Reissue edition. Cambridge University Press, 2010.

_____. *Theoretical Philosophy: 1755-1770.* In *The Cambridge Edition of the Works of Immanuel Kant*, translated and edited by David Walford and Ralf Meerbote. Cambridge: Cambridge University Press, 2002.

_____. *Opus Postumum*. In *The Cambridge Edition of the Works of Immanuel Kant*, edited by Eckart Forster and translated by Eckart Forster and Michael Rosen. Cambridge: Cambridge University Press, 1993.

_____. *Religion and Rational Theology*. In *The Cambridge Edition of the Works of Immanuel Kant*, translated and edited by Alan Wood and George De Giovanni. Cambridge: Cambridge University Press, 1996.

_____. *Metaphysical Foundations of Natural Science*. Edited and translated by Michael Freedman. Cambridge University Press, 2004.

Korsgaard, Christine. *Creating the Kingdom of Ends*. Cambridge University Press, 1996.

Langacker, Ronald W. *Foundations of Cognitive Grammar*, Vol.1. Stanford University Press, 1987.

Longuenesse, Beatrice. *Kant and the Capacity to Judge*. Princeton University Press, 1998

_____. *Kant On the Human Standpoint*. Cambridge University Press, 2005.

Metzinger, Thomas. *Being No One: The Self-Model Theory of Subjectivity*. The MIT Press, 2004.

Moltmann, Friederike. *Parts and Wholes in Semantics*. Oxford University Press, 1997.

Neiman, Susan. *The Unity of Reason*. Oxford University Press, 1994.

Parsons, Charles. "The Transcendental Aesthetic." In *The Cambridge Companion to Kant*, edited by Paul Guyer, 62-100. Cambridge University Press), 1992

Sedgwick, Sally, ed. *The Reception of Kant's Critical Philosophy*. Cambridge University Press, 2000.

Ward, Andrew. *Kant: The Three Critiques*. Polity Press, 2006.

Watkins, Eric. *The Metaphysics of Causality*. Cambridge University Press, 2005.

_____. Ed. *Kant and the Sciences*, Oxford University Press, 2001.

Wicks, Robert. *Kant On Judgment*. Routledge Philosophy Guidebook. Routledge Press, 2007.

Wilkins, Burleigh T., "Teleology In Kant's Philosophy of History." History and Theory Vol. 5, No. 2 (1966), 172-185.

Zuckert, Rachel. *Kant on Beauty and Biology*. Cambridge University Press, 2007.