

**KANT'S FORMAL IDEALISM, THE SYNTHETIC A
PRIORI, AND THE CONSTITUTION OF OBJECTS
OF EXPERIENCE**

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University of Pittsburgh, 2015

We rightly take it for granted that knowledge of empirical objects is possible. In contemporary philosophy, however, the question of *how* we can have this knowledge has largely fallen off of the agenda. In contrast, in the philosophy of Kant, the question of how we can have our ordinary knowledge of these objects lies at the heart of the enterprise of vindicating synthetic *a priori* judgments. With an eye to revitalizing that question, in this dissertation I begin to mark off a class of Kantian views in metaphysics and epistemology. According to these views, the only way to account for how we can have knowledge of empirical objects as objects—as things that exist and are available to everyone to be known—is if both the nature of these objects, and our knowledge of them, are partially grounded in our faculty for knowing them. It is the necessary, not the contingent, features of these objects that will be grounded in these faculties. And this will be so, not only for the general necessary features that all empirical objects share, but also for those special features of individual objects that we can nonetheless know to be necessary.

Although when examining Kant it is impossible to avoid the question of how empirical objects have their synthetic *a priori* grounding in our representations, this question has received relatively little sustained attention in the secondary literature. In part because of this, rather than directly delineating the class of Kantian views I am after, I have chosen to spend this dissertation developing a reading of this aspect of Kant's account. In the first chapter, I look at how this grounding works in general. In the second, I examine how the special necessary features of certain representations are grounded in the necessary features

of more general representations. Finally, in the third I combine these two elements into an account of how, according to Kant, both the general and specific necessary features of objects have their synthetic *a priori* grounding in our faculty for knowledge and its representations.

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INTRODUCTION

In the shift from scholasticism to Frege, one core element is the gradual transformation of the distinction between *a priori* and *a posteriori* knowledge. Kant's philosophy is at the center of this shift, and his conception of synthetic *a priori* knowledge or cognition (*Erkenntnis*)¹ was what he understood as his key insight. Unsurprisingly then, we find elements in Kant's conception of the *a priori* that we don't find, at least quite in the same form, in his progenitors or successors. Arguably, the main such feature is that on Kant's account our synthetic *a priori* representations will make their objects possible. How this works, and the subsidiary commitments attached to this conception of the synthetic *a priori*, can be isolated and viewed largely in abstraction from the rest of Kant's theoretical armature—even, perhaps, apart from his fundamental distinction between understanding and sensibility. I call, following Kant, a view of the nature of knowledge, and of its objects, which takes on these commitments

¹Here I will use 'knowledge' and 'cognition' interchangeably to translate *Erkenntnis*. *Erkenntnis* is an exercise of a fallible capacity for *Erkenntnis*—an *Erkenntnisvermögen*. As fallible, the exercises of these capacities may not be successful. In this way, *Erkenntnis* may not be veridical, and in this respect *Erkenntnis* is unlike what philosophers now mean by 'knowledge.' Nonetheless, I tend to prefer it to 'cognition,' in part because for most of the arguments I will be making, I don't take the differences between *Erkenntnis* and knowledge to be of too much moment. On the other side, to me, the now standard 'cognition' already seems to tilt in the direction of something psychological and does not seem to sufficiently indicate the role of *Erkenntnis* in Kant's account of what we now call knowledge.

Still, there are two other points about the relation between *Erkenntnis* and what we now mean by knowledge that need to be kept in mind. The first, which will be significant throughout, is that *Erkenntnis* may not be propositional in form. While judgments can count as *Erkenntnis*, the components of judgments—concepts and intuitions—will also count as exercises of our capacities or faculties for knowledge, and so also be *Erkenntnis*.

Second, Kant also has a stricter grade of *Erkenntnis*, *Wissen*. This term usually connotes *Erkenntnis* that has been connected into a systematic, scientific body of knowledge, for which it has been seen how it follows from first principles. In this respect *Wissen* is closely related to the traditional notion of *scientia*. A characteristic feature of *Wissen*, unlike *Erkenntnis*, is that it must be true. Although in this respect it is closer to what now goes under the title 'knowledge,' because of the systematic connotations of *Wissen*, it is nonetheless a rather different notion. In chapter two, the distinction between *Erkenntnis* and *Wissen* will be important in examining causality, but I will highlight it again at the appropriate point. For now *Erkenntnis* is the only notion under discussion.

‘formal idealism’ (*KrV*, B518-519n).

There are two subsidiary features of Kant’s account of synthetic *a priori* knowledge that I take to be distinctive of formal idealism. The first is that according to formal idealism the only *a priori* features of objects that we can know are *a priori* must have their sources in our faculties for knowledge. These *a priori* features will concern less what is actually the case with these objects, and more what is possible or necessary. A corollary of this claim that will sound more familiar to a contemporary ear is that according to Kant, and the formal idealist generally, the only necessary features of objects that we can know are necessary must have their sources in our faculties for knowledge. The second subsidiary feature of synthetic *a priori* knowledge on the formal idealist account is that all of our knowledge of special *a priori* features of objects—such as that we can know the pen must be along side the pencil, if the pencil is alongside the pen—is grounded in corresponding general representations—like of space, time, causality, or substance—that articulate the structure of our faculties for knowledge. Again, a related but perhaps more familiar corollary, is that Kant thinks our knowledge of specific material incompatibilities or necessities are explicable through certain very general representations, which themselves articulate the structure of the faculties in which these material incompatibilities or necessities are grounded. The first of these features of formal idealism indicates how the possible and necessary features of the objects of our knowledge depend on our faculties for knowing them. The second indicates the way specific *a priori* knowledge is grounded in, and controlled by, general *a priori* knowledge. The two will come together in an account of how specific objects of our knowledge, such as those we encounter in experience, are partially constituted by their being knowable by us.

I, at least, do not yet see compelling reasons to reject this kind of Kantian conception of the synthetic *a priori*, but also do not know of anyone with a genuinely formal idealist position in contemporary metaphysics or epistemology.² Although the historical, sociological,

²Even contemporary philosophers like John McDowell or Michael Friedman, who claim an explicitly Kantian lineage, I think, ultimately reject formal idealism. Thinking the positions of both through, what I suspect we will find is that they each accept one of two options, although I do not take it to be altogether clear which of these they each in fact do accept—there are elements in both of their positions that push in each direction. On the one hand, at times it sounds like they will each accept a more mundane realism according to which our faculties for knowledge have no genuine role to play in the constitution of objects, although these objects must be such as to be able to be known by us. On the other hand, at times it sounds like they each endorse a Hegelian idealism in which our capacities for knowledge transform over time, and

and philosophical reasons for this are obviously complex, I suspect one reason is that we have not yet properly understood Kant's conception of the synthetic *a priori*, and so have not been in a position to see how it could mark out a promising class of potential contemporary views. Accordingly, here I will take up the task of examining Kant's distinctive conception of synthetic *a priori* knowledge, and the work, both philosophical and textual, will be largely exegetical.

Because my aim is both to draw attention to formal idealism as a live possibility today, and to understand Kant's own view, two somewhat conflicting tendencies are at work in what follows. By way of a resolution, I will do my best to not approach matters with concerns that would be parochial to either Kant and his contemporaries or to a present day philosopher. Nonetheless, on the one hand, in order to understand Kant's view, at appropriate points I will delve into details of Kant's philosophy that a contemporary philosopher would likely want to reject. Further, on the other hand, an immediate concern most philosophers today would have about formal idealist accounts as sketched is that they require an appeal to an outdated, obscure, or at least suspect conception of a faculty for knowledge, and it is with this suspicion that the project will begin. Even still, I hope that both of these discussions will address concerns of universal philosophical interest, and to emerge from these with the shape of a view that need not be bound to either period.

In the first chapter I begin by using Frege to sharpen the suspicion about Kant's conception of a faculty for knowledge into an objection. What someone in a Fregean spirit might charge is that in granting our faculties for knowledge a role in constituting the nature of their objects, the formal idealist blurs the distinction between the subjective and the objective. If true by the formal idealist's own lights, if indeed no distinction she would recognize can be drawn between the subjective and the objective, then this would bankrupt the view. Through responding to this objection we will get a preliminary take on the distinctively formal idealist conception of the dependence of the nature of the objects of our knowledge on our faculties for knowledge. Once this conception of objectivity and our faculties for knowledge is on the table, I will turn to presenting an argument for why we should agree

with this that the objects of our knowledge also transform. This latter position does away with synthetic *a priori* knowledge in the formal idealist sense because on it this knowledge loses its necessity.

with Kant that the only *a priori* features of objects that we can have knowledge of are features that arise through the relation these objects stand in to our faculties for knowledge. In this chapter, then, I will work into the Kantian way of thinking from outside, with an eye to the general shape of a formal idealist view in metaphysics and epistemology that could be defended today.

In chapter two, now largely leaving concerns external to Kant's philosophy behind, I examine the second feature of the Kantian *a priori* I mentioned above: the way in which the *a priori* features of special representations of objects are determined by more general *a priori* representations. To understand how this works according to Kant I will examine three cases: spatial knowledge, knowledge of qualities (or real features), and knowledge of causal connections. In all three we will find that knowledge of special features of objects is made possible by or grounded in general 'formal' representations, like space, or the categories of relation and causality. I conclude the chapter by arguing that all such special knowledge of objects according to Kant, even seemingly merely empirical knowledge, is grounded in formal representations this way.

In chapter three I turn to how these two features of the synthetic *a priori* come together to make specific objects possible on Kant's account. I will do this by examining his conception of the nature of the objects of knowledge, substances, by way of an examination of his distinction between judgments of perception and experience. I will claim that according to Kant, when we recognize a connection among our representations through one of the categories in a judgment of experience, we recognize a feature of the object represented that is available to be known to anyone appropriately situated. To be able to have knowledge of this universally available feature, as well as for this knowable feature of the object to be possible, both this knowledge and this feature must have their synthetic *a priori* grounding in our faculties for knowledge. In the end, although I do not aspire to convince the reader to take on Kant's categories, or his account of the forms of sensibility, I hope to have made a case for why a compelling account of our everyday knowledge of objects, as well as of the nature of those objects, should accept that both of these are partially constituted by their grounding in our faculty for knowledge.

Before turning to begin the project proper, it is finally worth saying a little bit about

how it fits with the extant literature on Kant's philosophy and on the synthetic *a priori*. Much of this literature is concerned with Kant's account of synthetic *a priori* judgments and the way they contrast with analytic judgments. My focus here will be rather different. What I will pursue is an account of how a "synthetic representation" and its object can come together *a priori* (*KrV*, A92/B124). This will be a synthetic *a priori* relation through which the representation makes its object possible. Specifically, I will develop an account of how the kind of synthetic *a priori* representations that express or articulate the nature of our faculty for knowledge ground the form of the objects knowable through them. Accordingly, although this synthetic *a priori* relation between representations and their objects is at the core of Kant's account of how synthetic *a priori* judgments are possible, the topic of these judgments, and what exactly it means for them to be synthetic, will be off to one side.

I know of no work that is explicitly devoted to spelling out this element in Kant's view, although because of the fundamental centrality of the topic it is very difficult not to touch on it in explicating any aspect of his theoretical philosophy. Because of this, on the one hand, almost every commentator has something relevant to say about it and I've learned a good deal from thinking about these discussions of related issues. On the other hand, because no one that I've come across directly and explicitly takes the topic up, relating my own discussion to the discussions of others has often seemed like a distracting temptation better left unindulged. For this reason in the dissertation that follows I engage with the secondary literature less than one might otherwise expect. Letting my view emerge, for example, through responding to and differentiating it from others did not seem like a viable approach because I am not treating an issue about which there has been a good deal of scholarly back and forth. Rather, I work into the issues on my own, and largely relegate relevant discussions of the literature to footnotes. I hope this does not lead the reader into the unwarranted sense that I am working with Kant in a vacuum. Two commentators that stand out, however, as having concerns particularly close to my own in this dissertation are Daniel Warren and Béatrice Longuenesse. As will likely be apparent, although our views differ in many respects, I have learned a great deal from their work and I will be responding to it more directly than I do to others'.

1.0 KANTIAN OBJECTIVITY AND KNOWLEDGE OF NECESSITY

According to Kant, although all of our knowledge begins with the enlivenment of our faculties in experience, it is not the case that all of the elements of our knowledge originate in experience. His basic thought is that experience teaches us that things are thus and so, but not that they could not be otherwise. There are elements in this empirical knowledge, even features of objects of experience, that we can know to be necessary. It is these elements that will be *a priori* and will be grounded in our faculties for knowledge, prior to experience. In this way, he believes that by investigating the origin of our cognitions in these faculties we can both discover necessary truths about the objects of our knowledge—in the first instance objects of experience—and determine the limits of that knowledge.

It is not clear, however, whether we can today make sense of an *a priori* investigation into our faculties for knowledge like the one Kant undertakes in *The Critique of Pure Reason*, let alone whether such an investigation can yield these substantive results. Perhaps positing these fundamental faculties and their *a priori* investigation as the key to progress in metaphysics was a mistake. Indeed, I believe although most analytic philosophers might say that Kant’s method was right for its time, almost none would think that his methodology should be pursued today. According to many (even most) of these philosophers the world is simply “out there,” and the job of a very large chunk of human inquiry is to wrap our minds around it and discover its truths.¹

We find something like this objection present at the inception of analytic philosophy in Frege, although Frege did not direct it explicitly at Kant. The objection can be summed up

¹One example of a contemporary philosopher with this kind of position is Ted Sider. Because of the place Kant gives to our faculties for knowledge and their representations, Sider groups Kant in with ‘subjectivists’ who see distinctions in the structure of the world as tied to “human language, biology, history, or psychology” (Sider, 2011, §2.5).

with the claim that Kant does not stay true to the first of Frege's fundamental principles in his *Foundations of Arithmetic*: "to sharply distinguish the psychological from the logical, the subjective from the objective" (*GA*, p. *x*). In the first part of this chapter (§1), I will look at how we might develop Frege's thought into a charge against Kant, and then look at the shape objectivity must take in order for a Kantian response to be viable. Through this, I think we can get into sharper focus the conception of a 'faculty for knowledge' that formal idealism will depend on.

In the second part of the chapter (§2), I will turn to what I take to be the core of Kant's argument for formal idealism—the reason that he thinks only a formal idealist view can account for the objectivity of knowledge. According to this argument those features of objects which we can know to be necessary must have their origin in the faculties through which they are known. It is because these necessary features of objects, which we can know to be necessary, are grounded in our faculties that synthetic *a priori* knowledge or cognition has a constitutive role to play both in empirical knowledge and in the objects of that knowledge.

In this way, my exposition in this chapter will be driven by concerns which come from outside Kant's philosophy. Accordingly, I will not be working synthetically, as Kant does in the first *Critique*, by expounding from first principles an answer to the question 'how are synthetic *a priori* judgments possible?' Rather, my method will be more analytic. By beginning with the Fregean objection, I hope to discover what must be minimally contained in the notions of 'objectivity' and 'faculty for knowledge' on a formal idealist account. Then, in part to further specify what is contained in these notions, I will turn to examine our knowledge of necessity and its objects through sketching an account of how such knowledge is possible. Finally, I will relate this account of our knowledge of necessity to a properly Kantian formulation of it in terms of our *a priori* knowledge, according to which this knowledge is of the form of objects of experience—a form which has its origin in our faculties.

1.1 OBJECTIVITY AND OUR FACULTIES FOR KNOWLEDGE

Turning now to whether Kant blurs the subjective and the objective, because of the distance between contemporary philosophers who believe the world is simply ‘out there’ and formal idealist positions like Kant’s, we will need to be careful in formulating the exact objection. Specifically, because the disagreement between these positions is fundamentally about the nature of objects and objectivity, for the dispute to be substantive and tractable, we will need to mark out common ground on which to adjudicate it. In line with this (§1.1), I will begin by presenting the objection. Next (§1.2), I will describe a shared conception of objectivity that is both substantive and yet does not preclude either the realist or formal idealist views out of hand. Then (§1.3), I will turn to assessing whether Kant’s method does away with objectivity on the basis of this neutral ground. Finally (§1.4), we will be in a position to step back and reflect on what is contained in the conceptions of an object and a faculty for knowledge that are involved in the formal idealist account as developed so far.

1.1.1 The objection

To Frege, and likely us, perhaps the most obvious way in which Kant will seem guilty of violating the injunction against blurring the psychological and the logical or the subjective and the objective is that he conceives of the subject matters of various sciences as themselves dependent on our faculties for knowledge. This is perhaps most readily apparent in his account of the subject matters of logic or mathematics. Logic studies *a priori* forms of thinking and mathematics studies *a priori* forms of objects. These forms arise out of our faculties for knowledge. Kant will even go so far as to describe logic as the science of the understanding and its laws, treated in isolation from sensibility (*KrV*, A52/B76). Accordingly, for him, independently of the understanding there wouldn’t be a subject matter for logic and independently of cognitive faculties like ours there wouldn’t be a subject matter for mathematics. This is also true of physics. For, although he does not think that these objects are produced “as far as their existence is concerned” by us (*KrV*, A92/B125), he does think the form of objects of experience depends on our faculties—sensibility and understanding.

Because of this, physics too would lack a subject matter without the relation of its objects to our faculties for knowledge.

Kant, however, would maintain he followed Frege's first fundamental principle no less than Frege. According to Kant psychology is either rational or empirical. Both have as their object the soul, and both would provide substantive material knowledge of it, as a thinking being. By rational psychology Kant has in mind the kind of knowledge Descartes thinks he attains about his own nature in the *Meditations*. Kant examines this subject in the Paralogisms chapter of the *Critique of Pure Reason*, and concludes that in fact such knowledge is impossible. By empirical psychology Kant has in mind something like what we mean by 'psychology' today: the study of how we human beings actually think. It will investigate the laws governing our psychological nature through observation.

General logic, however, as the study of the laws of the understanding, is not a part of psychology. It studies the nature of discursive thought as such. It is not, as rational psychology is, concerned with the being that thinks—whether it is necessarily a substance, simple, the same being across successive acts of thinking, or related to an external world. Nor is general logic concerned with contingent, empirical laws governing how we human beings happen to think. Rather, it is concerned with the form of thinking in general, which all discursive thought shares, merely in virtue of being thinking. Thus, according to Kant general logic is not concerned with psychology, the study of the soul, but with the laws governing thinking and judging in general, the capacity for which Kant calls the understanding. Accordingly, as for Frege, its laws are independent of any individual thinker and govern necessarily any thought. Further, since the laws of logic both govern how we ought to think and describe the general structure of the understanding as the faculty for discursive thinking, as for Frege, these laws will both be normative and descriptive.

Nonetheless, for Kant there is a sense in which logic is subjective: logic is the science of the form of thinking in general, which has its source in the nature of finite thinking subjects. This is in contrast to Frege, who thinks the laws of logic govern a class of topic universal abstract objects, which figure in thoughts about any domain whatsoever. These laws govern the thought of finite and infinite intellects equally. And on Frege's view these objects and their laws, like those of physics, would exist even if there were no finite intellect to think

about and describe them.

Kant and Frege disagree about the independence of logic from the nature of the finite intellect, and this goes hand in hand with their disagreement over whether the subject matter of logic, mathematics, or physics is ‘out there’ in a sense that requires its complete independence from the faculties of those who develop these sciences. Kant would reject the characterization of his conception of general logic as psychological (and his conception of transcendental logic is no different), but because Frege thinks any appeal to the kind of faculty for thinking in question psychologizes logic, he would disagree. Here they are at an impasse.

Although the Kantian account will seem implausible to this kind of realist objector, so far we have a difference in philosophical proclivities, not a serious objection. Still, there is one lurking close to the surface. Because Kant sees the structure of the world as depending on our faculties for knowledge, many today would claim his view is ‘subjectivizing,’ and there is something apt in this.

Using Frege’s dictum, we can sharpen this into an objection: Kant blurs the subjective and the objective. Although so far vague, this is substantive. For if there is something essentially subjectivizing about Kant’s method, if Kant is guilty of irreparably blurring the subjective and the objective such that an account of theoretical knowledge is impossible, then Kant has a serious problem. Giving such an account is, after all, a central task of Kant’s philosophy and if his method has ruled this out, then his philosophy fails spectacularly.

We can begin to fill out why this objection might have some bite by looking at Frege’s critique of Husserl, since, like Kant, Husserl thinks that we can investigate certain objects through investigating the origins of their representations. Frege maintains that this is a psychological methodology that leads Husserl to not distinguish representations from their objects (Frege, 1894, p. 209). He thinks this method often leads philosophers to take the “description of the origin of a representation” for a definition, or to take “an account of the mental and physical conditions on which we become conscious of a proposition for a proof of it” (Frege and Austin, 1884, p. vi).

As a result of this tendency, Frege thinks philosophers run the risk of making everything subjective and doing away with objective truth. This is because by looking to the sources

of representations or their conditions, he thinks we suppose that “concepts sprout in the individual mind like leaves on a tree, and we think to discover their nature by studying their birth” (Frege and Austin, 1884, p. *vii*). But over time the way representations are born can evolve. If their nature and meaning is tied to their origin, and their origin can shift, then their meaning will shift too. But then everything would be in continual flux, “there would no longer be any possibility of getting to know anything about the world and everything would be plunged into confusion” (Frege and Austin, 1884, p. *vii*).²

1.1.2 Neutral ground

Now, between Kant and our Fregean objector there is a disagreement over the nature of objectivity and objects. Accordingly, before we can evaluate whether Kant can distinguish the subjective from the objective, or whether his methodology makes an account of knowledge impossible, we need to mark out common ground on which to adjudicate the dispute. This common ground should both be robust enough that a successful defense of Kant is significant and not rule out Kant’s position from the start.

For both Kant and the objector the objective representations in question are elements in theoretical knowledge that represents what is the case. For both, this kind of knowledge is intersubjectively available. This intersubjective availability is not merely a matter of a few people agreeing or possibly agreeing, but is a matter of what is valid for us at all times and for everyone else. Merely representing accurately one’s subjective states is not sufficient for either kind of account.

More can be said, however, for this does not yet give us any common explanation of why there is such intersubjectively available knowledge or how there can be judgments that have a claim to being knowledge for all possible (finite) knowers. Such an explanation can be found in a shared conception of the relation between these representations, cognitions, and their objects. For both, what explains the possibility of such knowledge is that these cognitions can represent their objects correctly. As Kant will put the point, all judgments

²By casting the discussion in the light of this objection I don’t mean to imply that I agree with Frege that a objectivity is impossible for a view on which the nature of objects is constitutively related to their representations, and these representations can shift. This is a question I am not addressing at this point.

about an object must agree with it, and because of this harmony with their object, these judgments all, in turn, must agree with one another (*Prol*, 4:298).

Finally, we can go further in marking out the common conception of theoretical knowledge by pointing out that according to both Kant and this interlocutor experience proves the existence of objects in space outside the knowing subject. For both, against the material (Berkeley) or problematic (Descartes) idealists (cf. *KrV*, B274), nature is composed of objects existing in space that we can know to exist through experience. These objects, and the nature of which they are a part, are actual and knowledge of them wouldn't be possible if we weren't affected by objects spatio-temporally outside us. In this way, both agree that 'what is,' is a matter of how things stand in nature, and this is not up to us.

Nonetheless, there is a feature that must be excluded from the common conception of objectivity on which we can adjudicate the charge. As we saw, Kant maintains that we can learn about objects by investigating their representations, and the reason is that these objects depend on our faculties for knowledge. The existence of physical objects will not be produced by these faculties, but their formal features, which include, say, their mathematical properties, will. If we were to rule out a conception of objectivity of this kind from the outset, then we will rule out Kant's position from the start.

To sum up, then, in order for Kant to be cleared of the charge of blurring the subjective and the objective on this neutral ground, it needs to be shown, first, that he has an account of how there are intersubjectively available judgeable contents, where this availability is not limited to a collection of subjects, or even the species, but obtains for all beings capable of this kind of knowledge. And second, that he has a conception of objects where these exist in space outside the knower, and that the possibility of representing these objects correctly is what explains the possibility of the intersubjectively available contents. Of course, even if Kant were cleared on these grounds there will still be a significant dispute, but with this acquittal we can start to see how a formal idealist account might be viable.

1.1.3 A reply

Returning to the objection, Frege takes investigations into the origin of a representation, the way it has arisen, to be a sure sign of psychology's tentacles. What matters for philosophy (and mathematics) is justification, and this has nothing to do with origin. Most philosophers today would agree: Who cares how a representation popped into one's mind? All that matters is the way it is justified.

At the crux of Frege's attack on investigations of origin, as well as the Kantian response, is their disagreement over the nature of *a priori* and *a posteriori* representations. According to Frege, the philosophical distinctions between *a priori* and *a posteriori*, synthetic and analytic, concern "not the content of the judgement but the justification for making it" (Frege and Austin, 1884, p. 3). A truth is one or the other of these not because of the "conditions, psychological, physiological, and physical, which have made it possible to form the content of the proposition in our consciousness," but because of "the ultimate ground upon which rests the justification for holding it to be true" (Frege and Austin, 1884, p. 3).

At the opening of the Transcendental Deduction and in the *Prolegomena* it can sound as though, like Frege, Kant too is setting aside questions of origin in favor of questions of justification regarding his categories (*KrV*, §13; *Prol*, 4:304). There Kant distinguishes questions of fact or empirical origin from questions of right or justification and sets the former aside as a matter of empirical psychology.

The superficial similarity here, however, hides a profound difference. As Dieter Henrich has convincingly argued, Kant's notion of a deduction is borrowed from 17th century jurisprudence. A deduction was a legal argument "intended to justify convincingly a claim about the legitimacy of a possession or a usage" (Henrich, 1989, p. 33). It did this by explaining the origin of the claim (Henrich, 1989, p. 35), not physically, but legally, by asking after how and where the right arose.

When Kant introduces the concept of a deduction in general at the beginning of §13, he appeals to exactly this legal conception of a deduction, and as he goes on, he develops this into the idea of a "birth certificate," whose origin must be transcendental, not empirical, for it to show the legitimacy of the categories (*KrV*, A86/B119). In any given knower, of course,

the categories will also have an empirical origin, whose explanation would be a matter of the “occasional causes [*Gelegenheitsursachen*] of their generation” (*KrV*, A86/B118-A87/B119), which are the empirical causes of their possession. Kant sets this empirical origin aside, however, and is instead interested in the entitlement to their use, the explanation of the way in which they can relate to objects *a priori* (*KrV*, A85/B117), for which the *a priori* ‘principle of their possibility’ (not actuality) is relevant.

So far this might not sound so different from Frege, and the Fregean reader of Kant might press that this appeal to the sources of knowledge is just a concern for where the justification of a claim came from, something Frege is equally concerned with. The critical difference comes in the role that Kant gives to our faculties for knowledge. Both here and in other places, when Kant describes what he is doing in giving his deductions, he will not only claim that he is offering a justification of the objective and universal validity of the element in question (*KpV*, 5:46; *KrV*, A85/B117), but also that he is giving a “transcendental deduction, by means of which the ground for judging in this way must be sought in the sources of knowledge [*Erkenntnißquellen*] *a priori*” (*KU*, 5:182; *KpV*, 5:47).³ When Frege considers where we arrive through his return to the sources of justification, it is only to general truths that must be recognized to be true (Frege and Austin, 1884, cf. e.g. §3), whereas Kant arrives at “basic powers or basic faculties” (*KpV*, 5:46).⁴

³The practical case here will seem like a counter example. For, “the moral law cannot be proved by any deduction,” but, paradoxically, “the moral principle, conversely itself serves as the principle of the deduction of an inscrutable faculty,” the faculty of freedom (*KpV*, 5:47). In this way, this deduction seems to reverse the otherwise standard direction, and attempts to justify the source, the faculty of freedom, through an inquiry into what follows, the principle. In a way, however, this description of things is misleading. The moral law is the basic fact of pure practical reason, which we are conscious of *a priori*, entirely independent of theoretical speculative reason. Speculative reason had need of the concept of the faculty of freedom in resolving the third antinomy, but it could not give any positive content to this notion. In this deduction, however, we give it such practical content through the moral law, and in this way our consciousness of the moral law is in fact the source of our positive conception of the faculty of freedom. To properly understand how this works, however, we would need to understand how in the practical case knowledge and its object come together, and this is something beyond the scope of this project.

⁴It might be protested that the general context of this passage works against the point I am making: “All human insight is at an end as soon as we have arrived at basic powers or basic faculties [*Grundkräften oder Grundvermögen*]; for there is nothing through which their possibility can be conceived, and yet it may not be invented and assumed at one’s discretion. Therefore, in the theoretical use of reason only experience can justify us in assuming them. But this substitute, adducing empirical proofs in place of a deduction from sources of cognition [*Erkenntnißquellen*] is denied us here with respect to the pure practical faculty for reason” (*KpV*, 5:46-47). Accordingly, in the theoretical case we are entitled to assume certain faculties based on experience, i.e., we can justify the assumption of faculties through an empirical demonstration of them, and from that it might seem that somehow the ultimate justification of the deduction rests, not on

One place where the importance of this difference comes out is in Kant’s appeal to the origin of the categories in carrying out their transcendental deduction. Without worrying too much about the details here, we can get some sense of the importance of this metaphysical genealogy through a quick sketch of this argument. In concluding the first half of the deduction, he explains that the reason he has so far abstracted from space and time is that “the categories arise independently from sensibility merely *in the understanding*” (*KrV*, B144, my emphasis). That the origin of the categories in the understanding is the key to the argument so far is borne out if we look back over the beginning of the deduction. The understanding, the faculty for thinking, under its most general description, is the spontaneous faculty (*KrV*, A51/B75), the faculty for combining (*KrV*, B130). The deduction starts with the bare notion of a combination with qualitative unity, present in any thinking (§15), and the relation of this to the thinking subject (§16). Then it examines how this is related to thinking about objects (§17), and this, in turn, to judgments (§19) and intuitions in general (be they spatio-temporal or not) (§20). Here it is the use of the categories that distinguish judging about an object from mere thinking, and it is their nature, as the functions of the understanding determinately combining a manifold of intuition (cf. *KrV*, B143; B128-9), that allows them to make this representation of an object possible. In this way, Kant takes the proof of their objective validity to depend crucially on their nature as capacities that originate *a priori* in the understanding, and if they could have originated in some other way he thinks the proof would not go through (cf. *KrV*, A91-92/B124). Thus, although this sketch is brief, I hope it is sufficient to indicate that in contrast to Frege, far from rejecting investigations into how knowledge arose as always psychological, by calling his proof a deduction Kant is suggesting that the question of justification itself depends on the question of how a representation is related to the faculty in which it originated.

The reason that the metaphysical origin of the representations in question matters for their transcendental deduction—the proof of their objective validity—has to do with the

the basic faculties, but experience.

This objection, however, confuses the order of discovery (*ratio cognoscendi*) with the order of essences (*ratio essendi*), since although we might discover the faculties for theoretical knowledge through experience, we still posit them as *a priori* sources of essential elements in the objects of our knowledge. And even if our reasons for positing basic powers or faculties in some cases come from experience, this does not affect the nature of deductions or the place of faculties on Kant’s account: transcendental deductions are still concerned with the metaphysical origin of *a priori* representations in these faculties.

nature of this validity. Kant maintains a (synthetic) representation and its object can be related in two ways. Either the object makes the representation possible, in which case the relation is empirical, or the representations alone make the object possible, in which case the relation is *a priori* (*KrV* A92-A93/B124-B125). In the latter case, this representation will determine its object *a priori*, because it is possible to know something as an object only through the representation (*KrV*, B125). It is this difference in the relation to its object that is most fundamental to Kant's conception of *a priori* and *a posteriori* cognition. This is a departure both from those that came after him, for whom justification was key, and from the usage of those before—according to which *a priori* knowledge consisted in knowing the ground or cause of what makes it true, while *a posteriori* knowledge begins from the consequences, and knows the thing only through what follows from it (cf. *KrV*, B2-3; *MM*, 29:748).⁵

⁵Broadly speaking, there are two other conceptions of the distinction between *a priori* and *a posteriori* knowledge that are relevant to understanding Kant's account, at least from our current vantage point: the traditional scholastic conception, and the newer Fregean conception. According to the first, to know something *a priori* is to know something from its explanatory grounds. To know something in this way is to be able to explain why it is the case. This kind of knowledge will include, for example, knowledge of the causes of something. On this account to know something *a posteriori* is to know that it is the case, but not to know why. It is to have knowledge of the fact, but not to have knowledge of the ground or reason for it. One example of this kind of knowledge is when we have knowledge of an effect, but not the cause. (In a recent essay Houston Smit begins to develop a detailed account of the way in which Kant's conception of the *a priori* is refining this traditional conception. I will refer the reader to Smit's essay both for more of the historical background, as well as illuminating philosophical discussion (Smit, 2009).)

At least by the time we reach Leibniz, if not before, experience is thought to only provide knowledge as an effect or consequence. (For a more detailed account of Leibniz's conception of the *a priori* and support for this claim to which Smit is also indebted, see (Adams, 1994, p. 109-113, esp. 110).) It is not thought to be able to give knowledge of the explanatory grounds or causes of things. Accordingly, at times Leibniz and the German *Schulphilosophen* seem to use '*a priori*' in the sense of 'non-empirical.' In this way, we can find inklings of the contemporary notion, which has emerged in the wake of Frege, even prior to Kant. Still, even if *a priori* knowledge takes on this aspect and is used in this sense by these philosophers, the broader notion should not be confused with the Fregean conception, according to which *a priori* knowledge is propositional knowledge whose justification does not depend on experience.

Unlike in Leibniz, for whom the first principle of our knowledge is God (Leibniz et al., 1996, cf. 447), in Kant's critical philosophy the first principles of our theoretical knowledge are our faculties. It is their investigation that Kant takes to be the key to setting metaphysics on the sure path of a science. Kant would see this investigation as *a priori* both in the traditional and Fregean senses. For, in coming to have knowledge of how things are grounded in these faculties we will come to understand why they are as they are, and thus have knowledge of their explanatory grounds. Further, this investigation will take place free from experience: pure reason is reason considered apart from its use in experience, and as a critique of pure reason, the claims in question will be established without appeals to experience for their justification. Nonetheless, despite this recognizable relation to both the traditional and Fregean conceptions of the *a priori*, it is through the place accorded to our faculties for knowledge in constituting their objects that the Kantian *a priori* takes on its distinctive character, and it is this that is my topic.

With this in mind, we can now get a sense of the kind of argument a transcendental deduction is supposed to be. These arguments will vindicate this kind of *a priori* relation between an *a priori* representation and its object. They will prove that the *a priori* representation in question is objectively valid by showing that knowledge of the object (and the object itself) are possible only through the representation.

Because deductions are supposed to justify this necessary relation of *a priori* representations to their objects, they cannot themselves proceed empirically. Empirical investigations concern how things happen to be, not how they must be. To figure out how they must be, we need to consider what is possible, and in this case establish that the relation between representation and object is necessary. This goes beyond what we can discover empirically in experience. Accordingly, transcendental deductions must be *a priori*.

Transcendental deductions will, further, prove that such representations are related to their objects in this way by investigating the origins of these representations in our faculty for knowledge. As a first approximation, a faculty for knowledge is just a capacity to know objects. *A priori* cognitions have their use and status because they are necessary for the possibility of knowing an object, and are partially constitutive of its nature—its form. Accordingly, such representations will necessarily belong to their faculty. And the strategy of a transcendental deduction is to establish that the representations in question partially constitute the form of the object, in virtue of their place in the faculty.

Now, on the formal idealist account, the nature of knowledge or its objects does not change. If the nature of knowledge changed, then the *a priori* representations in the faculty must also change. These, however, partially constitute the nature of their objects. So if the nature of knowledge changed, then the nature of these objects would also shift. The formal idealist account, however, takes as its starting point that we do have knowledge of objects of experience, and that having this knowledge includes the potential to share it with any other knower with these same kinds of faculties—understanding and sensibility. But if the *a priori* representations of these faculties or their objects could shift, then this kind of universal communicability with other knowers who have these same kinds of faculties would be threatened. Furthermore, and more significantly from the formal idealist standpoint, if the *a priori* representations of these faculties could shift then the nature of their objects

would shift, and this is inconsistent with the conception of objects and objectivity that the view is working out.⁶ And so on this view neither the nature of the knowledge or the objects shifts.

At this point we are in a position to return to Frege's objection. At the core of this objection was the charge that if origin was relevant to the meaning of a representation or the nature of its object, since origin can shift, the meaning and the nature of the object can shift too. Kant maintains, however, that the origin of the *a priori* representations relevant to deductions is not empirical and not contingent. These representations cannot evolve or shift, and neither can their role in the faculty of which they are part. For, the way in which a transcendental deduction attempts to vindicate the *a priori* representations in question is not by describing their empirical genesis, but by explaining how any finite faculty for knowledge must give rise to these representations in order for it to be able to have knowledge at all. That is, such deductions will show how these representations are essential to the operation of the faculty. And the way that these deductions will characteristically do this is by showing that these *a priori* representations make the objects of knowledge possible through grounding an element in the form of the objects. These formal elements are constitutive of the natures and kinds of the objects in question, and so these elements cannot change. In this way, the kind of origin that is in question in a transcendental deduction is not subject to Frege's objection.

Of course, in investigating the nature and origin of these *a priori* representations and their objects mistakes can be made, but that is insufficient to show the investigation can't be a clue to the content or meaning of the cognition under examination. Accordingly, there doesn't seem to be reason to think that undertaking this kind of investigation makes presuppositions that threaten to do away with truth.

⁶Accordingly, I do think that if objectivity can be recovered for a view on which the nature of objects is constitutively related to certain representations and these constitutive representations can shift, this conception of objectivity will be fundamentally different from the formal idealist conception. And just as it makes sense to ask from the realist standpoint whether the formal idealist conception of objectivity counts as objectivity at all, from the formal idealist standpoint it will make sense to ask whether this more Hegelian conception of objectivity counts as objectivity at all. For, just as it is contained in the notion of objects on the realist account that they are 'out there' completely independent of us, on the formal idealist account it is part of the notion of objects that their natures cannot transform in the way they will on this more Hegelian view.

1.2 THE FORM OF EMPIRICAL KNOWLEDGE AND ITS OBJECT

Naturally, this response would be unsatisfying to our objector. The key part of the disagreement is over whether the faculties of a finite knower can ground, or be partially constitutive of their objects. And this issue has not been addressed. What I would like to do now, however, is turn to laying out exactly why Kant maintains there must be this constitutive relationship, for it is only with a clearer sense of this, that a more substantive response can be made. At the end of the chapter I will return to the psychologizing objection one more time, both to attempt a response to lingering doubts, and to draw out the notion of a faculty for knowledge and its object that is under consideration.

In the coming section, I will make what I take to be the core argument of formal idealism, according to which we can only have knowledge of necessary features of objects if these features have their source in the *a priori* form of our faculties for knowledge. To make this argument, we will need to begin by examining what Kant takes to be the characteristic marks by which we can recognize *a priori* cognitions: necessity and strict universality. Then we will be in a position to sketch how he thinks genuine *a priori* knowledge that has these marks is possible. To see how Kant conceives of this working we will need a clearer grasp of Kant's conception of a faculty for knowledge and its form. After this background is in place, however, we will be ready to give the core argument. Finally, to bring the Kantian view into sharper focus, it will help to consider two alternative accounts of our knowledge of necessity: One on which there is a pre-established harmony between the objects and our *a priori* cognitions but no constitutive relation, and another on which the only genuine knowledge of necessity we have is logical and so much of the kind of knowledge of necessity the formal idealist is defending is an illusion.

1.2.1 The marks of the *a priori*

Kant indicates two marks or criteria by which we can distinguish pure *a priori* knowledge. Experience teaches us “that something is constituted thus and so, but not that it could not be otherwise” (*KrV*, B3). If, however, we think a proposition along with its necessity then

it is an *a priori* judgment. Similarly, “if a judgment is thought in strict universality, i.e., in such a way that no exception at all is allowed to be possible,” then it is valid absolutely *a priori* (*KrV*, B4).

After introducing these features or marks, Kant then demonstrates through examples that we both have, and exercise, the capacity to think a proposition along with its necessity or strict universality. One example he offers of strictly universal, necessary, and thus pure *a priori* judgments are all the propositions of mathematics. For instance, ‘the sum of the angles of a triangle are equal to two right angles.’ Knowing that two right angles are equal to all of the adjacent angles that can be drawn on one point on a straight line, a geometer might try to give a proof that shows the angles of a triangle together must be equivalent to these. This result would prove the proposition with strict universality, since it wouldn’t depend on any particular triangular thing or on the triangles we’ve so far considered, but would be valid of any possible triangle whatsoever. Together with this universal validity comes its necessity. This is because in the proof we’ve shown that the proposition is true of any possible triangle (presuming a Euclidian geometry). And indeed, Kant thinks these two criteria, necessity and strict universality, are always satisfied together, although one may be more apparent than the other.

Another example Kant offers is, ‘every alteration must have a cause.’ This is not a proposition that Kant argues for here, but one which he thinks we commonly take to be true. This proposition contains within it a claim to its strict universality: that it holds of every possible alteration. If we try to derive this concept as Hume did “from a frequent association of that which happens with that which precedes,” then this strict universality is entirely lost, and the proposition is given a merely inductive justification (*KrV*, B5). For, all we would have is that alterations customarily follow causes, which would be founded in a habit of mind that dictates we anticipate a certain alteration, given a cause. Here we would have nothing beyond our past experience on which to base the truth of this proposition, and so its universality would be merely empirical, established through induction.

Finally, Kant maintains these marks of the *a priori* lodge not only in judgments, but also concepts. Two examples he gives, besides cause, are space and substance. He shows that we take them to apply to their object necessarily, and to provide a universal rule for this

object, by gradually removing everything empirical from our experiential concepts of body or object (corporeal or incorporeal) in general (*KrV*, B5-6). In the case of the experiential concept of a body, in abstracting, the body itself will disappear before the space it occupies, which is necessary for representing the body at all. In the case of the empirical concept of an object in general, in abstracting away from all of those properties that experience teaches, “you could still not take from it that by means of which you think of it as a **substance** or as **dependent** on a substance” (*KrV*, B6). And, thus, we take thinking of it in one of these ways to be necessary for the representation of an object at all.

1.2.2 The nature of *a priori* knowledge in general

The key to Kant’s explanation of why *a priori* knowledge is necessary or has strict universality is the way in which this knowledge reverses the empirical order of dependence between representation and object. The relation between representation and object is empirical when the object makes the representation possible. Kant maintains this is so for what in objects of experience belongs to sensation. For *a priori* cognitions, however, “the representation alone makes the object possible” (*KrV*, A92/B125).

Abstractly, we can see why such a reversal could grant strictly universal propositions. For, if the possibility of an object depends on a representation, then that object must accord with it. This is so not merely inductively, not because every such object we’ve met in experience has accorded with the representation, but because in order for the object in question even to be possible, it must accord with it.

When we move to cases of *a priori* knowledge, there will be different kinds. To begin, *a priori* practical concepts are productive of their objects through our activity in the world. We represent how we will make things, and then we make them that way. This happens by means of the causality of our will. In this case we will have knowledge of the object we produce as its maker.

Although in this essay we are concerned with theoretical, not practical knowledge, mathematical knowledge bears some affinity to the practical case. When we cognize an object of experience mathematically we produce the form of the object *a priori* from our mathemat-

ical concept and then precede to investigate this concept through this construction. Until we have formulated the mathematical concept of, e.g., the shape of an object, which we can investigate *a priori*, our knowledge of this shape is merely empirical. With the formulation of the mathematical concept, however, we have the recognition of a rule through which we can produce the geometrical figure in pure imagination. As in the practical case, this production takes place through an act of the will, although the construction is only imaginary. And, as in the practical case, this construction, as the object of the knowledge, is not possible without the *a priori* mathematical concept.⁷

Turning to speculative metaphysics, traditional *a priori* concepts, like God, the soul, or things-in-themselves, are of super-sensible objects that cannot be given in experience and so are not forms of possible experience. Accordingly, because we can only have theoretical knowledge of objects that we can experience, we cannot know their objects through them.

Representations like space or time, substance or cause, however, are of objects of experience, that can be given through sensation, but they do not produce the existence of their objects.⁸ Nonetheless, they make their object possible or are “still determinant of the object *a priori*” in that it is possible through them “alone to **cognize something as an object**” (*KrV*, A92/B125).

We can begin to understand this kind of relation between representation and object by pausing over what it would be for something to make an object possible, but **not** bring about its existence, as Kant claims that these representations do. If I didn’t know how to make pasta, then I couldn’t make it for dinner tonight, but knowing how to make pasta does not cause me to make it for dinner. Similarly, on Kant’s account, without *a priori* representations, objects of experience would not be possible, but having these representations

⁷Whether Kant counts the construction as the object of mathematical knowledge or the objects of experience which instantiate it is somewhat disputed. On the one hand, it is certainly because of the relation of the constructions with the objects of experience that mathematics will count as cognition (e.g. *KrV*, B147). On the other, he will at places speak of the constructions as the objects of mathematical concepts (*KrV*, A723/751). If empirical objects are the proper object of our mathematical concepts, then of course they will not be produced by the concept. Nonetheless, as we are about to see in the metaphysical case, I think there would still be a sense in which they make their objects possible because it is only possible to cognize these objects through the mathematical concept in question. Defending this interpretation would take work, however, and since we are not primarily concerned with the mathematical case, this is work we need not do here.

⁸“... ihren Gegenstand dem **Dasein nach nicht hervorbringt**” (*KrV*, A92/B125).

does not ensure that there are such objects.

The objects in question in this relation will be what Kant calls appearances. This is because of their dependence on our *a priori* representations. Although they are not wholly independent objects in themselves, they are publicly available, and may not have been represented by us. If we have experienced these objects and so have empirical knowledge of them, then he will call them objects of experience.

Because appearances are *knowable*, if they must be represented through a certain representation in order to be known, then they must be constituted in such a way as to be representable through this representation. Thus, there seem to be two ways of construing the dependence of these objects on the *a priori* representations in question. On the first, it is not merely that these objects, appearances, can only be known through the *a priori* representations, but that the objects are also made possible by them. On the second, appearances can only be known through these representations, but the objects are independent of them, and so the way in which these representations ‘make their objects possible’ is to be read weakly as ‘only through them can these objects be cognized.’

In considering these options, the first point to note is that on the first option, despite making objects of experience possible, the *a priori* theoretical metaphysical knowledge in question does not bring about their existence in something like the manner of practical knowledge or mathematical constructions. We do not produce these objects through our will. Rather, it is through sensation that we become conscious of the existence of an appearance, and all our theoretical knowledge of them depends on this kind of contingent affection by something real outside us. In this way, even on the first option, we do not bring forth the existence of, or produce, the appearance, but must be affected to have a representation of it.

If we must be affected by the object in order to know it, then it can seem the object must be able to exist independently of us, which can make the philosophical position of the second reading seem more plausible. Textually, the problem with this reading is that Kant says as appearances these objects have “no existence grounded in itself” (*KrV*, A491/B519). In this passage he stresses the nature of appearances, objects of possible experience, as themselves representations. In doing so, he is not here endorsing a position like Berkeley’s, which he calls **material** idealism, where objects in space outside us do not exist, or even one on which

this is doubtful and indemonstrable (cf. *KrV*, B274). Rather, he is endorsing a formal or ‘transcendental’ idealism according to which these objects exist, but are appearances whose form is determined by our *a priori* theoretical metaphysical cognition. Thus, on this view, this cognition—according to Kant the pure concepts of the understanding and our pure *a priori* intuitions of space and time—will not only be necessary for having knowledge of these objects, but make these objects possible as elements in their form. To see the philosophical reasons for why Kant rejects the second of these options, as well as the core argument for formal idealism, we will first need to look at how he is conceiving of a faculty for knowledge.

1.2.3 Faculties and the form of our knowledge

In what follows we will be concerned with assessing, at a very general level, the kind of view Kant seems to be endorsing, in light of these brief textual considerations, about the relationship between empirical knowledge, its object and the *a priori* elements that make up that object’s form. Showing that the pure *a priori* intuitions of space and time, or the pure *a priori* concepts of the understanding, the categories, in fact do have this relation to objects of experience is the task that Kant undertakes in the transcendental expositions of the Transcendental Aesthetic (*KrV*, B40-41, B48-49) and in the Transcendental Deduction of the Pure Concepts of the Understanding (*KrV*, A95-A130, B129-B169). For our purposes here we need not assess whether Kant is right in these arguments, and we will be abstracting away from the particular considerations he offers.⁹ Nonetheless, the kind of relation that Kant thinks obtains between these representations and the faculties to which they belong is significant, and it is this that we will examine presently.

We do not need to get too bogged down in the details, but Kant’s conception of a ‘faculty’ or ‘power’ has two sides. On the one hand it is that in virtue of which a substance can bring about a change in another substance. These will be the causal faculties or powers of the substance. On the other, it is that in virtue of which a substance can be the ground of

⁹Since it is in the Transcendental Aesthetic that Kant primarily argues for the distinction between appearances and things-in-themselves, we will also largely be abstracting away from his argument for this distinction, which is often the metaphysical doctrine that people today have in mind when they speak of ‘Kant’s Transcendental Idealism.’ Of course, the issues surrounding this distinction are closely related to the ones we will be discussing, but I will not be addressing the cogency of this distinction directly here.

the actuality of its accidents (*MM*, 29:771). That is, through a power or faculty, a subject can bring about certain states or features in itself. In this way a faculty or power indicates a potentiality of the subject to respond to its circumstances in given ways. And when we explain a modification of this subject in terms of an exercise or actualization of a power or faculty, we are appealing, primarily, to the subject's own nature, not to an effect of something else on it.¹⁰

On Kant's conception, the whole of our representational faculties or powers together make up our mind (*Gemüt*). Those of these faculties or powers that we are interested in are cognitive, they are our faculties or powers of knowledge (*Erkenntnisvermögen* or *facultas/Erkenntniskraft*).¹¹ Now our minds are finite, and so the operations of our cognitive faculties are sensibly conditioned: without being sensibly affected they would not have occasion to spring into operation. The requirement of such input means that, at least in our case, the material for the operation of these faculties can be distinguished from the order this material has in virtue of this operation. Indeed, on Kant's account, at every level within the activity of our faculties for knowledge we find a distinction between the determinable matter operated upon and the determination of this matter through the ordering of the faculty (cf. *KrV*, A266/B322).¹²

The kind of *a priori* knowledge we are interested in describes the form of the faculty to which this knowledge belongs. In the first instance, for Kant, this form is the order that the representations of the faculty must stand in, in virtue of their being representations of this faculty. Intuitions, in virtue of their being representations of our sensibility, will be ordered spatially and temporally (*KrV*, A20/B34, §1). Concepts, in virtue of belonging to the understanding, the capacity to judge, are predicates of possible judgments, and their relations

¹⁰For a discussion of Kant's conception of faculties and powers and their distinction that I've found helpful, as well as a more in-depth discussion of these than I will offer here, see (Boyle, 2014).

¹¹As Béatrice Longuenesse notes, we need to be careful with applying this general characterization of faculties or powers to Kant's conception of faculties or powers of knowledge because, as the Paralogisms chapter makes clear, the mind is not itself a substance (Longuenesse, 1998, p. 7-8). Nonetheless, as Boyle replies, although the mind lacks real substantial unity, it has a kind of logical unity which Kant clearly thinks of as analogous to real substantial unity (Boyle, 2014, p. 14n23).

¹²Examples of form/matter distinctions among Kant's cognitions include the following. Concepts are the matter, their copulative relation the form, of judgments (*KrV*, A266/B322). The matter of concepts is their object, while their form is generality (*JL*, §2, 9:91). Or more complexly: sensation is the matter of empirical knowledge, while pure intuition is the form under which this matter is intuited, and pure concepts (the categories) are the form of thinking of an object in general (*KrV*, A50/B74-A51/B74).

will be in accord with the forms of judgement belonging to the understanding (cf. *KrV*, A69/B94-A70/B95). Accordingly, for Kant, space and time are the *a priori* intuitions that describe these formal relations endemic to our sensibility, while the pure concepts of the understanding are the *a priori* concepts that describe those formal relations endemic to our understanding.¹³

1.2.4 Only the *a priori* form of objects of experience is necessary

With a working understanding of Kant's conception of the form of a faculty for knowledge and the *a priori* knowledge that describes it, we are ready to take the main step in seeing why it is plausible to maintain that objects of experience are made possible by certain *a priori* representations, through which they must be known and which grant the objects their form. This step will consist in giving a general argument to the effect that if we know objects of experience have a feature necessarily, then that feature is a part of their form, insofar as it results from the form of the faculty through which they are known.

Making the case for this has two parts. First, we need to show why this form is necessary: why it is necessary that the objects in question have the features the form dictates they have. It is essential to appearances or objects of experience that they are knowable by finite knowers such as ourselves. But to be knowable, they must be knowable through the *a priori* representations that articulate the form of our faculty for knowledge. Accordingly, they must have the features dictated by the form of our faculty, necessarily. For example, according to Kant appearances must be knowable through the pure concepts of the understanding. Since these concepts include cause, reality, etc., these objects must be, e.g. connected together

¹³At the beginning of the Aesthetic and the Analytic Kant examines the faculty for knowledge in question, looking for those *a priori* cognitions that describe the form of this faculty, and which are candidates for the kind of proof of their application to objects he goes on to offer. The specific natures of the forms Kant isolates are contentious, both insofar as he conceives of the form of the understanding as largely described by Aristotelean logic, and insofar as space and time are supposed to be Euclidian and absolute. Even if Kant is wrong on these points, this does not clearly threaten the distinction between sensibility and understanding, or that these have *a priori* forms. Here we are not interested in specific such forms or their associated representations, and so whether Kant has isolated the wrong forms (or even whether he is wrong about the distinction between understanding and sensibility) is of no moment to us. In the next chapter, however, I will elaborate more fully the general relation between the *a priori* cognitions that describe the form of a faculty and their objects, and this will provide a clue as to how we should look for these forms and the *a priori* representations they are associated with.

causally, be able to affect us and so have reality, etc. For, if these objects were not this way, they would not be knowable through these *a priori* concepts, and so would not be appearances. Thus, necessarily, every appearance will have these features, in virtue of which they can be known through the pure concepts of the understanding.

Second, we need to understand why what we can know to be necessary in the objects of experience is this form, provided by these *a priori* metaphysical representations. That is, why, if there were some further element in the objects of experience that had its source outside our faculty for knowledge, then this element could not be known to be necessary, from a theoretical point of view.

We might wonder about sensation. It is necessary for experience, but has its source as affection outside of our *a priori* knowledge. Although in order to experience something we must have sensation, this sensation (and thus the experience) is contingent. Sensation is necessary for our experience because of our faculties: our kind of knowledge is such that we can only know objects of experience if they sensibly affect us. Thus, although it might be a necessary feature of our knowledge that it be brought about through a condition (e.g. affection by things-in-themselves), this is a feature our knowledge will have in virtue of our cognitive faculty (e.g. receptivity demands affection).¹⁴

As this case brings out, however, there may still be some general necessary condition of the exercise of our faculty that itself lies outside it (say objects-in-themselves). This, in turn, might lead one to wonder, couldn't there be a necessary feature of objects of experience that has its source in the condition, and which we could know to be necessary, but which is not itself traceable to the faculty?

No, at least not in the relevant sense. Any necessary feature will either have its source outside these faculties and so cannot be recognized to be necessary, or it will have its source in them. Suppose that there were some necessary feature of the object of our knowledge arising from a source outside our faculty. Then, as far as we could know, this feature could

¹⁴Although above I said that in the first instance the form of a faculty concerns the order among representations, as we can see here, however, what we are interested in seems to be slightly broader. For, what we are after are those features of the faculty that are necessary for its proper exercise, and it is not clear that all of these will come down to the order among the matter that is operated upon. That we cannot know external objects without their affecting us, because we are finite intellects, may be an example of one such necessary element.

be absent. For, *ex hypothesi*, it is not required by the faculty for its exercise. In this way, as far as can be known, it is contingent. As far as can be discerned, the object could lack it. So while perhaps present in every instance of knowledge, because it is not grounded in the faculty, it can only ever be inductively certain. Perhaps the nature of objects-in-themselves dictates that they give rise to this property and so it is necessary from God's perspective. But to us it can, by hypothesis, only ever be contingent, at least from a theoretical point of view. In this way, although there is room for a notion of what is 'absolutely necessary' from God's perspective, the only significant notion of necessity for our theoretical knowledge is relative to our faculties.¹⁵

For example, suppose it were the case that bodies are necessarily spatial because of some reason lying outside our faculties (e.g. divine fiat, the nature of physical reality in itself). Suppose we also take bodies to be necessarily spatial, and that we do so, not because all of our outer sensory representations must be spatial, but for some other reason, including possibly the divine fiat. In any of these cases we would be confused. Even if we are right that God made it thus and so, we have no way of being justified in this belief. For, the only way we can know an object has a feature necessarily is if the feature has its origin in our faculty for knowledge. Thus, we can think that we know an object has a feature by divine fiat, it can have that feature by divine fiat, and yet we do not have knowledge of that object as having that feature necessarily, because we cannot have knowledge of necessity this way.

Returning to the marks of the *a priori* we began with, we now have an explanation of how it could be that empirical things have necessary features that we know to be necessary and why at least some of the *a priori* propositions that hold of them do so with strict universality. This is because these propositions describe formal features that these objects must have, in virtue of their being possible objects of knowledge. While we have not seen how Kant argues any given special features are had necessarily by objects of experience—to do that we would have had to look at his various transcendental deductions—we have seen

¹⁵Kant thinks something analogous is true in the practical sphere as well. The fact of reason, the moral law, governs unconditionally all practical activity, and has its source in pure practical reason. In human beings this law has the form of an imperative because we are sensibly affected, and so can fail to act in accord with this law. An infinite being, as supreme intelligence, however, will not act in conflict with this law. Either way, this fundamental law of pure practical reason determines practical necessity, the structure of what ought to be the case, and nothing external to pure practical reason can determine this.

how he thinks the *a priori* formal representations of a faculty will be related to the objects known through it in a way that explains the necessity of the features it gives rise to.

1.2.5 Two alternative accounts

This argument about our knowledge of necessity is the core of our general argument for formal idealism. In this subsection I would like to examine two other proposals about how this supposed knowledge might be working. Although in examining these views I will offer reasons for thinking they are less attractive, my aim here is not to rule these other potential contending accounts out. Rather, by looking briefly at these, my main concern will be to get a sense of what the other possible accounts of this supposed knowledge of necessity look like and to bring the shape of the kind of formal idealist view we are after into sharper focus.

1.2.5.1 Pre-established harmony In (§1.2.2) I briefly looked at a textual reason for rejecting an interpretation of how cognitions can make their objects possible on which they constitutively ground the knowledge of their objects but not the objects themselves. Now we are in a position to see the philosophical reason why this kind of view should seem less attractive. What we just saw was that if there were some necessary feature of our knowledge that did not have its origin in our faculty, then on the formal idealist account, we could at best have inductive knowledge of it, not genuine knowledge of its necessity. Pre-established harmony views will attempt to deny this conclusion in one of two ways.

On pre-established harmony views our faculties are constituted in such a way that we can only represent things in certain ways, and as it happens the things that we represent also have those features. These subjective dispositions of our representative faculties are not thought of as granting the form of their objects, but as matching up with these objects through an appeal to a third thing that brings about their correspondence. Often this third thing is something like a benevolent creator that has ensured the harmony between our subjective dispositions and the way things are. On these proposals, then, our faculties for knowledge could be constituted in such a way as to require that all of the objects we can have knowledge of must also have some feature. Here, there would be a necessary coincidence

between the operations of our faculties in knowing and the objects in question, although the objects would not be partially constituted by the form of our faculties as objects of knowledge (cf. *KrV*, §27, B165-168).

On the first version of the pre-established harmony view, our faculties for knowledge are similar to the faculties Kant or Locke supposes we have. On this version, an object will have a feature necessarily for some reason besides this feature originating in our faculty for knowledge. Nonetheless, because there is a pre-established harmony, our faculty for knowledge is also constituted in such a way that all of our representations must represent things as having this feature, and we will be able to know that this feature is necessary. For example, suppose God has made bodies spatial, and we represent things as necessarily spatial. Now, from the argument above, we saw that the only way in which we could know that the spatiality of our representations of bodies was necessary was if this necessity was grounded in our faculty. In this way, bodies could both be represented as necessarily spatial and be necessarily spatial, by a kind of pre-established harmony. The problem, however, is that these would be for different reasons. Here, then, our knowledge of their necessary spatiality would be illusory: we would represent bodies as necessarily spatial, but the reason we represent them that way and the reason they are that way would not line up. We would be right, but for the wrong reason.

If we press on this version further I think we can see that on it, in fact, the objects we represent are not the same objects that God makes spatial. For, in this case we understand that the nature of the objects we represent depend on our faculties, specifically insofar as these objects are spatial, while the nature of the objects God makes spatial do not depend on our faculties. In this way the source of the necessary properties of the objects are different—the way in which their natures arise—and so it seems they could not be the same objects. If that is right, then now there is room for a kind of skeptical worry to begin: although the objects we know are spatial, these are merely subjective, and how do we know what the real objects that God has created are like? All we can say is insofar as we are constituted we represent objects as spatial, but not that the objects themselves are spatial.

There is, however, a further, more successful version of the pre-established harmony view. According to this version, we would represent bodies as necessarily spatial, God would be

the reason why they are necessarily spatial, and we get to see that God is the reason. To develop the pre-established harmony view this way, one would need to posit, like Crusius, that we have a kind of intellectual intuition through which we can know, at least partially, the necessities that God brings about and the true essences of things, as God knows them. That is, in reflecting on what is necessary, our faculty for knowledge is not merely that of a finite knower, but incorporates elements of God's faculty. For, here we do not merely know the form of the objects of our knowledge, but that God has made objects with such and such properties. For example, we might suppose that after encountering enough cases of fire melting gold, the natural light reveals to us that there are powers in the gold or the fire itself, as God knows them, that necessitate this change in the state of the gold when they get together. Against someone who claims this kind of knowledge, it seems there is little to say except that one does not find this kind of intuition in one's self.¹⁶

1.2.5.2 A Humean account On the second kind of account the kind of strict universality Kant demands for knowledge of necessity is too much. All we are capable of, outside of considering logical connections, is inductive universality. Many proponents of such a position would claim inductive universality is the only universality we should want from non-logical knowledge. Any supposed knowledge of the necessary features of objects of experience beyond this is an illusion. Insofar as we find it at all this necessity is merely projected onto the objects by us. Hume's view has this shape. The main formal feature of our knowledge he considers is the supposed necessity of causal connections and looking at Hume's account of these connections will help clarify our second alternative.

Analyzing causal connection into a constant conjunction of the cause and the effect, the definite ordering of these, and the necessity of their connection, Hume thinks the first two but not the third can be traced back to sense impressions. The source of the feeling of necessity, however, he locates in habit or custom. Because in the past we've seen water in

¹⁶To my knowledge Kant does not address this specific possibility with regard to our knowledge of necessity. Still, against such views in general, according to which a non-deceiving God has implanted truths within us, and thereby guaranteed the agreement of our representations with their object, Kant points out that among the truths there are also mixed in falsehoods. In the past we have come to discover some of these. And without a sure criterion for distinguishing the ones of authentic origin from the spurious, the position looks quite precarious, for "one can never know for sure what the spirit of truth or the father of lies may have put into us" (*Prolog*, 4:319n).

a kettle boil after being put on a stove, when we see a kettle on the stove, our mind has become accustomed to transitioning from the one impression to the other. In accord with this habit, our mind now immediately moves from the thought of the kettle on a hot enough stove to the thought of its water boiling. Associated with this transition there is a feeling. This feeling, Hume thinks, is the origin of our representation of the necessity connecting cause to effect.

As Hume points out, however, we don't represent this necessary connection as arising through reflection on a feeling in our mind, but as actually present in the connection between the objects. The way that Hume accounts for this is analogous to the way that Descartes thinks of secondary qualities like color. Although we take these to inhere in the objects themselves, they actually only arise in relation to us. We project them onto things, mistakenly believing they are in them. According to Hume causality is similar. Through the habit of mind, and the associated feeling of transition between our representations, we come to have a feeling of necessity along with this transition, and to form the associated idea of necessity from this feeling. Rather than recognizing its origin clearly, however, we project it onto the things, the heat of the stove and the boiling water, believing that the necessary causal connection is in them.

Kant's formal idealism is in many respects similar. Kant, like Hume, thinks that the necessary connection between cause and effect is not one that we can reason out *a priori* by analyzing the concept of the cause, the kettle's being on the hot stove, or the effect, the water's boiling. Furthermore, Kant also agrees that by examining our impressions or intuitions of objects alone we cannot see how the concept of cause arose. Finally, Kant agrees that the origin of the necessity in our representation of causal connections lies in us, in our faculties for representing or knowing.

Nonetheless, like the rationalists, Kant is committed to the necessity of the causal connection being in the objects, not an illusion that we project on to them. In this way, Hume's account is one on which we learn that we were wrong about the knowledge we thought we had before reading his work, insofar as this necessity is not to be found in the objects. Kant, however, takes himself to be offering an alternative that allows us to preserve our knowledge of necessity, insofar as there is a genuine necessary connection among the objects. The way

he does this is by maintaining that the objects of our knowledge must be partially constituted by the possibility of our knowing them.

1.2.5.3 Objection from these positions Usually both of these kinds of positions are motivated by a shared commitment that runs counter to the core of formal idealism. On this commitment, which could be classified as a kind of realism, the objects of our knowledge are simply out there and are independent of us and our faculties for knowledge. To someone with this commitment, as soon as any element of the object is informed by our faculties for knowledge, it will look as though we are projecting some feature of our subjectivity onto the object. Accordingly, to this kind of philosopher the basic thought of formal idealism will be a non-starter.

Insofar as there is an objection to these positions implicit in the considerations I have been offering, it has been that these kinds of accounts cannot make proper sense of the possibility of genuine knowledge of non-logical necessity, and this seems critical to any account of knowledge. Conversely, however, proponents of these positions would likely not admit the formal idealist account of knowledge as legitimate, because it does not share a fundamental commitment to the independence of objects from our ability to know them. Instead, I suspect proponents of these positions would insist that by maintaining that the form of objects of experience depends on our faculties for knowledge, the formal idealist is committed to giving up on something at least as significant as genuine knowledge of the non-logical necessary features of objects of experience.

I do not presume to refute or convert such an objector. Metaphysical positions are notoriously contentious, in part because there is not widespread agreement on what common sense dictates, but on the face of it, the realist view does seem more in line with common metaphysical opinion. For, the formal idealist view is only evident after philosophical reflection: maintaining that the objects of our knowledge are partially constituted by the possibility of our coming to know them is not a naive position. What this metaphysical sophistication allows, however, is a viable way of preserving the knowledge we ordinarily take ourselves to have. For, on it objects of experience have non-logical necessary features, and we can have knowledge of these. It can sound, then, like we are faced with a choice between two kinds

of naïveté. The formal idealist gets to preserve their account of knowledge of necessity. The realist gets to preserve metaphysical common sense. Both have their costs, but it is a matter of philosophical taste which we go in for.

I think more can be said, however, in favor of formal idealism. One traditional project of metaphysics, especially in the early modern period, is to provide the requisite metaphysical foundation for the kind of knowledge we already take ourselves to have, both commonly and when doing natural science. While engaging in such a project, we are committed to preserving this knowledge unaltered, at least as much as possible, and the task is coming up with a metaphysical view on which this is viable. What Kant says when comparing realism to his view, after having sketched his account of how we can have synthetic *a priori* geometric knowledge, is that only by going his way can we account for how this knowledge is possible and “otherwise, with respect to all merely possible experience, everything remains just as if I had never taken this departure from the common opinion” (*Prol*, 4:291). So although Kant departs from metaphysical common sense, possible experience looks the same on his account. One way of describing the project of this dissertation is that of examining why it is only on a formal idealist account that we can preserve a common sense view of possible experience, according to which we can have the sort of knowledge of objects in experience we take ourselves to have. For, in experiencing, we represent objects as situated in nature and available to be known by other knowing subjects. This, however, will involve representing as such certain necessary and universally knowable features of the objects. And it is only formal idealism (or divine implantation) that can account for how that kind of knowledge is possible. In this way, it is not just that only formal idealism can preserve a viable account of our knowledge of necessity, but that only it can preserve an account of how knowledge in experience is possible at all. Knowledge in experience, however, is the first knowledge we have. It is where all of our knowledge begins and so having a viable account of it seems worth a little added metaphysical sophistication.

1.3 CONCLUSION: THE FACULTIES OF FORMAL IDEALISM

This response would likely be unsatisfying to our objector because of the impasse over whether the faculties of a finite knower can ground, or be partially constitutive of their objects. Before leaving consideration of this dispute behind in order to get a clearer sense of how this grounding works on the formal idealist view, however, I would like to come at the psychologizing objection one more time. By doing this I hope to both make a more satisfying response to lingering doubts and to draw out exactly the notion of a faculty for knowledge that is under consideration.

Our objector might press the psychologizing charge further in the following way. Kant's method depends on being able to distinguish those elements in experience which arise *a priori* through our faculties from those elements that are themselves empirical. As Kant warns at the outset, becoming attentive to separating these two elements is a skill that takes long practice to develop (*KrV*, B2). And as was pointed out, Kant seems to give an example of attending to this difference a little further on when he advises the reader to “gradually remove from your experiential concept of a **body** everything that is empirical in it—the color, the hardness or softness, the weight, even the impenetrability—there still remains the **space** and you cannot leave that out” (*KrV*, B5). Now the explanation of why the space remains is that space is supposed to be an *a priori* component of the experience of bodies that has its origin in the form of our sensibility, one of our faculties for knowledge. But why think that this process of isolating *a priori* elements and their origins isn't itself a kind of psychological investigation? It looks like it involves an appeal to the phenomenology of experience. And if we grant to Kant that our representations of body all depend on space in this way, why isn't that just a deep psychological fact about human beings?

The key to a response here is that we are conscious of space as necessarily grounding objects in space. Consciousness of necessity or strict universality—that everything we could possibly know through a capacity must have a certain feature—will be the marks of formal elements in the objects of knowledge. And it is the *a priori* representations of these formal features of the objects that will be susceptible to justification through a transcendental deduction, but prior to such a deduction, we will still have knowledge (*Erkenntnis*) of these

features, and will even cognize them as *a priori* and necessary. This is what the example with space and body is supposed to bring out.

Now, Kant would concede that for all we can know, it might be a contingent fact that the form of our intuition is spatial. And so “we can accordingly speak of space, extended beings, and so on, only from the human standpoint” (*KrV*, A26/B42). Thus, there is a sense in which Kant would concede that space, as a form of our sensibility which “is a necessary condition of all relations within which objects can be intuited as outside us,” may be only a strictly universal feature of how we intuit objects (*KrV*, A27/B43). In this way, the fact that all of our representations of bodies depend on space might seem like a deep psychological fact.

This characterization, however, is not quite fair. Kant would take this not to be a deep psychological fact so much as a metaphysical or epistemological one about the nature of our possible knowledge and the objects that can be known. According to Kant, to have theoretical knowledge of an object that object must be given to be known. This happens through sensibility, through the way we are affected by objects. The form of our outer sense is space, and so external objects must affect us in a spatial way. This is why all objects of our outer sense must be situated in relation to one another in space. I will be expounding this relation between our faculties and their objects further in a moment, but it is in the first instance a fact about the possible objects of outer-sense and our faculties for knowing them that the representations of these objects must be spatial.

Still, our objector will press, according to Kant it could be a contingent feature of human beings that the way objects show up to us must be spatial and temporal, but the way the objects really are is not this way, and it is in this respect that the Kantian account is subjectivising. According to Kant, however, hankering after such knowledge of objects, as they are in themselves apart from how they can be known through our faculties, although natural, is to succumb to an illusion of reason. For it is only through sensation that we can discover the contingent properties of objects, and it is only through their relation to our faculties for knowing that these objects have those necessary or formal properties that are available for us to know. In this way, because these necessary properties of the objects depend on our faculties, these objects themselves will depend on our faculties, or be appearances, as

Kant will put it. Knowledge of super-sensible objects that are not appearances, but objects in themselves, is impossible. So although “we cannot judge at all whether the intuitions of other thinking beings are bound to the same conditions that limit our intuition and that are universally valid for us” (*KrV*, A27/B43), the only knowledge we can have, and the only objects available to us to know, will be bound by these conditions.

Turning back to formal idealism, as I’ve developed it so far, formal idealism need not accept Kant’s specific account of the forms of these faculties—space, time, or the categories—indeed, it is not even clear that the formal idealist must accept his distinction between sensibility and understanding.¹⁷ What is characteristic of formal idealism is that the knowledge of necessity that we take ourselves to have is for the most part genuine. The only features of objects which we can know to be necessary are ones that belong to the form of these objects of our knowledge. And the form of these objects has its *a priori* origin in our faculty for knowledge, whatever this faculty may be. In the next chapter I will be examining the way in which these faculties control the representations that are possible or necessary through them, and in the final chapter I will be examining how these aspects of the formal idealist account ground specific formal features of objects.

Now, without getting into these further developments yet, the conception of a faculty for knowledge which the formal idealist needs to take on is just one which allows this *a priori* cognition of the formal features of objects, which in turn determine what is necessary or merely possible with regard to them. This means that whatever we take our knowledge of necessary or merely possible features of objects to be will be a guide to the nature of these faculties. So, for example, if we agree with Kant that space is a strictly universal condition on cognizing objects in space like bodies, and we can thereby know position in space is a necessary feature of these objects, then we will need to agree with him that we have a faculty that grounds this necessary feature.

In this way, the formal idealist account of a faculty for knowledge will be rather thin. As

¹⁷Sensibility and understanding are closely linked to receptivity and spontaneity, and the distinction between these can seem very closely linked to the material/formal contrast, which of course is integral to ‘formal idealism’ and its contrast with material idealism. In this way it can seem clear that the distinction between sensibility and understanding is also integral to formal idealism. I think, however, that as long as we have a distinction between possible and necessary features of objects that we can come to know, that is all that is required for getting a version of formal idealism going. The exact nature of the source of the contingent matter of our knowledge or its necessary form is farther down stream.

a faculty for knowledge, it will be a capacity or potentiality of the subject to have knowledge. As possessors of a finite such capacity, we will have the power to acquire knowledge and learn. Thus, both in knowing and in learning we will exercise this faculty. Now, there will be *a priori* elements in this faculty which ground what is possible or necessary in its exercises—*a priori* elements that ground the form of our possible knowledge. This form of our possible knowledge, in turn, grounds *a priori* the form of the possible objects of this knowledge, their possible and necessary features. And in the remaining two chapters we will see in greater detail how this works, according to Kant.

As a final note, in the 20th century a newer view has sprung up which can look like formal idealism, as described so far. Arguably, philosophers as diverse as Tractarian Wittgenstein, Quine, and McDowell all hold something like this new view. McDowell will put this by saying that the forms of thought are the forms of reality. “There is no way to conceive reality except in terms of what is the case, and there is no intelligible idea of what is the case except one that coincides with the idea of what can be truly thought to be the case” (McDowell, 2009, p. 197). Put this way, Kant would agree.

Nonetheless, these views sometimes sound like pre-established harmony views. For example, at times it can sound like McDowell maintains that the world exists out there and we happen to be able to know it. Or again, in parts of Frege’s work logic can seem to be acting as a third thing that ensures representations and reality share the same form. Still, most of the time these views can seem very close to formal idealism insofar as the form of reality and the form of representations coincide and there is no third thing.

Even accepting that, another way in which these views can differ sharply from formal idealism is in their account of necessity. With the advent of Fregean logic it seemed to some, like Wittgenstein in the *Tractatus*, that the kind of material synthetic necessity which Kant takes as his main topic could be reduced to a kind of merely logical necessity. To others, like Quine, it seemed we should deny the possibility of genuine necessities all together, and that even logic was a contingent, empirical affair. If either of these takes on those facts that Kant thinks have their synthetic *a priori* grounding in our faculties could be made to work, then the power of the new logic would have made the kind of formal idealist explanation of the special necessary features of objects otiose.

Even if we reject both the reduction of synthetic necessity to logical necessity and the attack on all genuine necessity, however, there will still be differences between these kinds of views and formal idealism. According to Kant, we can go further than merely noting the coincidence between the forms of representation and reality. Through reflecting on the exercise of our faculties for knowledge in knowing reality we can come to see how the form of reality is grounded in their form. Although I think we find McDowell reflecting on and explaining the relations between these forms in his work, or we find Quine similarly engaged with the logical structure of language and reality in, say, his ontogenetic tales, the proponents of these 20th century views characteristically resist what they take to be substantive theorizing about the relation between these forms. In this way, there seems to be a deep divide between these views and formal idealist views, even when these latter day philosophers are not tempted by something like pre-established harmony, and even abstracting away from disagreements over non-logical necessity. The aversion to articulating the relation between reality and representation, I suspect, has its origin in the shift to a contemporary conception of logic, and in a corresponding weakening of the self-consciousness characteristically present in acts of knowing. Working out these thoughts, however, and the relations between these 20th century views to one another, let alone to formal idealism, would be a large task inappropriate to undertake here, given that we do not yet understand how the synthetic *a priori* grounding of material necessities that is characteristic of formal idealism works in any detail.

2.0 HOW SPECIFIC *A PRIORI* REPRESENTATIONS HAVE THEIR SYNTHETIC GROUNDING IN GENERAL ONES

In the last chapter we examined Kant's account of our knowledge of necessity, and his argument for why the features that we know to be necessary must have their origin in the form of our faculties for knowledge. In this chapter, we will examine a second general characteristic of the formal idealist account of the synthetic *a priori*. This second feature is less explored in the literature, although it is no less fundamental. On the formal idealist account, there are *a priori* representations like time, space, or the categories, which indicate the most general formal features of our faculties for knowledge. There are also representations of specific relations between, and features of, objects that are grounded in these general formal representations. One example is the way that the representation of space grounds the representation of 'this pen is along side that pencil.' In these cases the general formal representations 'control' their corresponding specific representations in various ways. One way that they do this is by determining which such specific relations between objects can be represented.

In the next chapter I will examine how these synthetic *a priori* relations between representations combine with the way in which synthetic *a priori* representations make their object possible explored in the last chapter. In particular, I will be focusing on judgments of perception and judgments of experience. In these judgments we can see, in different ways, how the mathematical categories (under the heading of quantity and quality) and the dynamical categories (especially under the heading of relation) control the representations of special features of, and relations between, their objects. Further, we will also see how these special features of the objects, in their *a priori* component, have their origins in these categories, and the way in which they make their objects possible. In part then, in the next

chapter we will move from considering the controlling relationship between representations of formal features and their corresponding specific representations of objects to considering the relationship between the formal features of our faculties and the features of the objects.

Although I take the determination of the representation of specific relations or features to be characteristic of the synthetic *a priori* in general for Kant, my focus here will be on the relations between the representations of formal features of our faculties—space, time, and the categories—and not the ones involved in the synthetic *a priori* judgments of mathematics. I think there are significant differences between the cases, and a full treatment of how mathematics exhibits this characteristic according to Kant would be a different project.

Merely suggestively, however, Kant maintains that doing mathematics begins with a problem. On its own, the content that we can analyze out of the concepts that figure in the problem will not help us much in making progress. Rather, we must construct things like lines and circles, and make judgments about these constructions in order to arrive at a general solution. In the case of geometry, our representation of space grounds the specific constructions. More proximally, however, the concepts of the kinds of figures we construct are general representations that ground the features of, and relations between, the specific constructions that instantiate them. In this way, in general, mathematical concepts control the features of their possible constructions, just as the representations of formal features of our faculties control the special features of, and relations between, their objects. In the mathematical case, the control the concepts exert is more robust, but the objects of these concepts are more limited.

In the coming section I will use the example of space to introduce the topic of the present chapter in a more precise way. The reason is that how this second characteristic of the synthetic *a priori* works for the specific case of space has received more direct attention in the literature. In the section after, space will also be the first case I examine in some detail. This is because space is in many ways the clearest and simplest place to start. There are, however, many important differences between how space and the categories determine the representations grounded in them. So after examining space, I will work through the examples of the mathematical category of reality and the dynamical category of causality.

2.1 THE GENERAL CLAIM

The *a priori* connections between space and the objects in space of interest to us are developed in the first two arguments in Kant's metaphysical exposition of the concept of space (*KrV*, §2, A23/B38).¹ The second of these arguments is concerned with the constitutive role of the representation of space, as regards objects in space. In this way, it is where Kant makes the argument I laid out in the last chapter for space. And just as this second argument exhibits a core feature of the synthetic *a priori* in general, applied to the specific case of space, I take the first argument to also exhibit a general feature of the synthetic *a priori*, but as it applies to the specific case. In particular, this general feature is the topic of the present chapter. In the first part of this section, I will use the first argument to arrive at a precise formulation of it. In the second part, I will sketch some of the features characteristic of the way formal representations ground the specific representations that they control.

2.1.1 The first argument about space

Kant's first argument runs as follows:

Space is not an empirical concept that has been drawn from [*abgezogen*] outer experiences. For in order for certain sensations to be related to [*auf...bezogen*] something outside me (that is, to something in another place in space, as that in which I find myself), likewise, in order for me to represent them as outside and next to one another, thus not merely as different, but as in different places, the representation of space must already be the ground [*zum Grunde liegen*]. For this reason, the representation of space cannot be obtained [*erborgt sein*] from the relations of outer appearances through experience, rather this outer experience is itself only first possible through that representation. (*KrV*, B38)²

¹It is important to note that although the four numbered parts of the exposition of the concept of space in the B edition are presented as arguments with premises and conclusions, the premises these begin from would often be contentious to a philosophically sophisticated reader. Thus, although they are arguments, I don't think we should read them as taking aim at such a reader; insofar as such arguments come at all, they come later on. Rather, the arguments here are elements in an exposition that spell out what might seem like more surprising features of the concept of space that are contained in more mundane, immediately recognizable ones (cf. A729/B757). And although Kant is beginning from features of space he thinks his reader should recognize, not all readers will.

²Compare also the corresponding first argument in the metaphysical exposition of the concept of time (*KrV*, B46). I will be focusing on the case of space, but many of the same remarks will apply *mutatis mutandis* to time.

Here, the literature agrees that Kant is making an argument of the form: (1) the representation of space is presupposed by [something]; (2) the representation of space is not empirical. Daniel Warren and Lorne Falkenstein have argued forcefully against the reading proposed by Henry Allison in the first edition of *Kant's Transcendental Idealism* (Allison, 1983, p. 83-86), that (1) should be filled out with 'the representation of objects as distinct from me or from one another' (Warren, 1998, §2), (Falkenstein, 1995, ch. 5).³ The way that Warren fills out this schema, it becomes:

(1') The representation of space is presupposed by the representation of objects as spatially related (namely, as spatially outside me or outside one another). (Warren, 1998, p. 197)

I take this paraphrase to be close to capturing what Kant is claiming in the argument, and will refer the reader to Warren for more of a defense of it.

My quibble with it (and the consensus) is that 'presupposition,' which follows the Kemp Smith translation, is weaker than what Kant is after here (and what is allowed by the more general characteristic that is our topic). It is not merely that the representation of space is presupposed by the representation of objects in space, but that the representation of space *grounds* the representations of these relations. With this in view, I think (1') should be reformulated:

(1⁺) The representation of space grounds the representation of objects as spatially related (namely, as spatially outside me or outside one another).

For, preliminarily, although the representation of space is presupposed, it is *because* we represent space that we can represent things as being related in space. And it is the representation of space that *explains* the representation of the relation of objects in space.

I hope to present compelling evidence that something analogous to (1⁺) holds for other formal representations like the categories, as the most general concepts of the understanding, which indicate its fundamental activities in uniting experience so as to make objects possible. In seeing how a corresponding more general claim might work, it is important to

³In Strawson's wake many interpreters took Kant's primary concern in the *Transcendental Aesthetic* to be with the individuation of objects. Warren and Falkenstein are generally concerned with arguing against this tendency and Warren reads Allison's construal of this passage as in line with it. I will not be going into the issues with the Strawsonian kind of interpretation here.

first recognize that although relations between objects are Kant's focus in the first argument about space, we need not restrict our attention to these. Similar considerations would also establish that the representation of specific features of objects, like that they occupy a certain position in space, are also grounded in the representation of space. Accordingly, in the more general version of the claim, I think we can take representations of specific features into account. With this in mind, a general version of (1⁺) is:

(1*) A formal representation grounds corresponding specific representations of relations between, or features of, objects.

Here the 'corresponding' is meant to indicate a relation like the one between space and spatial relations, where the latter are the sort of relation to be grounded in the former. Examples of instances of (1*) would be: 'The representation of reality grounds the representation of objects as having degrees of reality.' Or another would be: 'The category of cause (and the corresponding concept of effect) grounds the representation of objects as causally connected.'

It is how, in general, formal cognitions ground corresponding representations of specific features of objects that will be my topic in this chapter. Although there is a developed literature on this kind of grounding in the case of space because there is a literature on the first argument, there isn't much of a literature on the way that this synthetic *a priori* relation between representations in general works. Part of why is that Kant does not himself draw much explicit attention to this core aspect of his view. The clearest places are in the arguments of the "Transcendental Aesthetic" and in the introductory remark to the "Transcendental Analytic." What he says in the latter is that he will be analyzing the faculty of the understanding in order to discover its elementary concepts—the categories—and that these will be connected together in a system. Here, although his focus is primarily on the relation between the faculty and its fundamental concepts, these would not constitute a systematic whole of *a priori* cognition, the articulation of which "can at the same time yield a touchstone of the correctness and genuineness of all the pieces of cognition fitting into it" (*KrV*, A65/B90), if these concepts did not themselves synthetically ground or determine the concepts subordinate to them. In this way, although Kant touches on this kind of grounding at critical moments indicating its centrality, it is admittedly not a feature of synthetic *a priori* cognitions that he seems to explicitly dwell on.

Furthermore, as is apparent in the introduction to the analytic, insofar as he does touch on this feature of synthetic *a priori* representations, he treats it in the context of discussing systematicity in general. This, however, often leads interpreters into considering the appendix to the Dialectic “On the Regulative use of the Ideas of Pure Reason” or the introductions to the Third *Critique*. While of course important, especially for understanding how our knowledge develops on Kant’s account, both of these texts draw in a number of further issues beyond the kind of synthetic *a priori* grounding that is our topic, and neither are that directly concerned with it. For both of these reasons, then, it is perhaps understandable that commentators have not been lead to develop detailed accounts of how, in general, formal cognitions ground corresponding representations of specific features of objects.

2.1.2 A sketch of this synthetic *a priori* grounding

By way of orientation, before examining how this kind of synthetic *a priori* relation works in our three specific cases, it will be helpful to sketch three broad features of this kind of grounding. The first thing we will see is that in each case Kant has an argument for why we cannot arrive at the formal representation in question empirically, through encountering objects subject to it in experience and comparing what these have in common. This is because, in each case, if we arrived at the formal representation in this way, then it could not properly ground the corresponding special representations.

The second feature that we will find in each case is that the way in which the formal representations ground their corresponding special representations is not reducible to a kind of analytic relation. That is, although in some cases we can analyze the specific cognition and find the formal cognition contained in it, we can never analyze the content of the general cognitions and find the corresponding specific cognitions. Rather, these can only be arrived at through determining the general ones by adding some more specific content to them that is not already contained in them. And so although some of Kant’s predecessors believed we could move analytically from the general to the specific, this is one major respect in which he is breaking with them.

The third and most important feature of this kind of synthetic *a priori* grounding con-

cerns how the formal representation grounds the relations between the corresponding special representations. One way in which this is the most important of the three is that it explains the first two. For, if we could arrive at the formal representation empirically, then it could not ground the relations between those special representations that are possible through it. And if we could arrive at the special representations merely by analyzing the general one, we wouldn't thereby get an account of the relations between the special representations. For example, if we analyze the concepts yellow and metal out of gold, all that this tells us is that the extensions of these concepts overlap at the gold things, but it doesn't tell us anything more about the relations between yellow and metal, as looking at synthetic *a priori* grounding relations will.

The way in which we might think about how the formal representation grounds the relations between the corresponding specific representations is that the formal representation determines which representations of this kind are possible because these are the possible determinations of this formal representation. This entails that the formal representation grounds which features the corresponding specific representations can or must have, and the ways they can or must be related to other such representations. We will see how this works in detail in each of the cases below, but the deeper reason why this is the most important feature of the kind of synthetic *a priori* relations under examination is that it is only through a consciousness of how a representation can and must be related to other representations that the representation can be a cognition or knowledge, according to Kant. This is because it is only through consciousness of such possibilities and impossibilities that the representation in question can represent an object as an object—that is, as something that determines which representations of it we can have.

Finally, briefly, there are also going to be very important differences between the three cases. First, in representing something as situated in space we do not presuppose an obscure representation of everything we could learn about space (in say doing geometry)—this is one way at why space is an original *a priori* intuition, not a concept. When we represent something as, say, brighter than another through the category of reality, however, we must already in some sense be representing everything there is to know about the category of reality. Putting the point in terms of the relations between the specific representations, in

the case of outer intuitions, having these representations does not entail that we are already representing all of the ways in which they are related to other possible spatial representations, only that we can come to learn about these relations. In the case of the categories, however, having their special representations, like representing something as having a certain degree of brightness, already entails that we are representing all of the other ways in which the brightness of the thing could relate to the brightness of other things.

Second, there is going to be a significant distinction between two kinds of categories: the mathematical and the dynamical. The mathematical categories under the headings of quantity and quality will apply to empirical intuitions or perceptions as they come forward in consciousness, but without necessarily considering how they relate to an actually existing object. For these categories the representation of the relations between the special representations that they ground can be made concrete or ‘visualized’ through mathematical constructions, like a line representing a space of possible brightnesses. For the dynamical categories under the headings of relation and modality, however, the relations between the special representations that they ground will not be mathematically representable in this way. This is because they will govern the connections between perceptions and their relations to existing objects, and so concern, e.g., hypothetical connections among perceptions like “if I perceive one billiard ball hitting another, then I will perceive the second begin rolling.” These hypothetical, disjunctive and modal connections between perceptions cannot be visualized as, say, the possible degrees of brightness can.

By the end of the chapter, we will have three cases of how (1*) works in some detail. This is by no means an exhaustive argument that all such formal representations ground specific representations. Nonetheless, I hope that it will seem plausible that this is usually the case. What is important for the formal idealist position, however, is not that all such formal representations ground specific ones, but that all knowledge of objects is grounded in these formal representations, and thereby grounded in our faculty for knowledge. In the final section, what I will argue is that on the formal idealist account, all of the knowledge of special features we can have is grounded in our knowledge of formal features of our faculties. And one way of putting what I will turn to in the next chapter is the argument that on the formal idealist account, all of the special features themselves that we can have knowledge of

will be grounded in formal features of our faculties for knowledge.

2.2 SPACE

Turning to our first case, how does the representation of space ground the representation of objects as related in space? In articulating an answer to this question, and thereby beginning the task of giving our general characterization of these kinds of relations, it will be important to contrast this *a priori* relation with an analogous empirical relation. After doing this, I will turn to why the relation is not merely an analytic one. Finally, I will highlight some distinctive features of this synthetic *a priori* relation that set it apart from cases like those of the categories, because space is originally an intuition.

2.2.1 Empirical spaces and space

For the contrast with the empirical case, consider first the contrast between empirical relations—“ x is a biological ancestor of y ,” “ x is brighter than y ,” or “ x warms y ”—and spatial relations—“ x is outside of y ,” “ x is along side y ,” or “ x is to the left of y .” On the one hand, according to Kant, in each of these empirical cases, in the course of experience, I encounter pairs of objects that bear these relations to one another, and it is through reflecting on the relation that obtains between these objects that I form the concept of this relation. On the other hand, as comes out in the first argument, in the case of space we cannot form the representation of space from the representation of objects as related in space. From seeing one object along side another, a third set a little distance off from the first two, etc. we cannot then go on to form our representation of space. Rather, the representation of space is presupposed in representing the spatial relations of the objects.

So far considered, there is a mismatch between the cases. Roughly, there are three elements under consideration: the objects related, the representation of the relation, and the representation of space. To see what the analogous contrasting claim for empirical relations would be to the one we find Kant making for spatial relations, we need a sense of the

representation that would play an analogous role to that of space in their cases.⁴ I follow Warren here in thinking that the analogous notion for each empirical relation can be thought of as itself a kind of space. These spaces codify structural features of the empirical relations (Warren, 1998, p. 199). In subsequent sections I will argue that we need to examine these cases in more detail than Warren does, if we are going to distinguish the ways in which even representing these objective empirical relations depends on the categories. For now, however, let us follow Warren's way of developing these empirical 'spaces,' and their contrast with space.

Warren's main example of one of these constructed spaces, which builds in the structural features of the empirical relation in question, is that of a brightness line. He uses the structural features of 'brighter than,' which have been discovered by observing the relations between empirical objects, like transitivity, etc., in order to create a one-dimensional space of possible brightnesses. The positions on this line will then correspond to the various possible brightnesses things can have. Warren's thought is that in representing the brightness space through a region of real space we thereby incorporate the relevant structural features through its graphic representation.

For another quite different example of one of these spaces, take the biological ancestor relation. A space for this relation might best be represented as a tree. Each individual would then occupy a branch, and all of those individuals that are ancestors of it will be on branches above it in the tree, and all of those individuals it is an ancestor of will be below it in the tree.

In each of these cases, by thinking of objects as located in these spaces, we do not merely represent the one as brighter than the other, or the one as the ancestor of the other. Rather, in addition to representing them as bearing these relations to one another, we also represent them as each bearing a relation to the space. We do this insofar as we are representing them as being at a position in, or as occupying a region of, the space.

The positions or places in a space are represented as distinct from the objects located

⁴There is another disanalogy between the cases that will seem relevant. In the empirical case, we encounter pairs of objects, and then reflect on their relation to form the concept of the relation through whatever acts are involved in forming an empirical concept. In the case of spacial relations, however, whether our representations of them are concepts or intuitions, they seem to arise differently. At the moment we should set this contrast to one side.

in them. Of course, we started with the objects so related. But in representing them now as related through the space, we represent them as positioned in the space and these places as possibly empty or occupied. For example, with our brightness line we can represent the objects as becoming dimmer or brighter. And through this, we represent them as changing their position, or ‘moving,’ on the brightness line. As they move, positions that were once occupied now become empty, and positions that were once empty now become occupied.

The next thing to notice about these spaces is that there is nothing about the concept of such an empirical space in general that guarantees that they will be continuous, or really that they will have much of a particular structure at all. For, both the ancestral tree, and the brightness line will be empirical spaces, and their structures differ a great deal: the positions on the tree are discrete, the line is continuous; the tree branches, the line is uniform; there may be many distinct ancestry trees, while all possible brightnesses can be situated on the line. We can take this further by appealing to another example of Warren’s: the redness-point (Warren, 1998, fn. 39). This is a zero dimensional space which all and only red objects “occupy.” The possibility that it represents is binary: either something is or is not red. And we can even imagine a number of disconnected such spaces, one for each object. In this way, the only structure that must be built into these spaces is that there are positions in them and that these positions can be occupied or empty.

Returning to the case of the brightness line, we can also see that the regions of it bear certain relations to one another, whether or not they are occupied. For example, they will both indicate a possible brightness that is either greater than a third or not, and will be a certain brightness distance apart, etc. This codifies certain ways in which the brightnesses of things can or cannot relate—certain brightness possibilities and impossibilities. For example, a cannot be brighter than b , while b is also brighter than a , and the brightness line represents this feature of ‘ x is brighter than y .’ For this reason, we might call these ‘spaces’ possibility spaces. For not only can they help in keeping track of actual relations between objects, but they also codify ‘modal’ features of the relation in question—relations that are possible or impossible through it.

Returning to space proper, the claim of the first argument was that the representation of objects as spatially related is grounded in a representation of space: in order to represent

two things as situated spatially in relation to one another, we must have a representation of the space that they both occupy. This contrasts with the cases we have just been examining. These are cases where we have the relation between the objects present before us first, and then through reflecting on these, we produce the representation of the possibility space. It seems clear, for example, that in merely representing a red object, we are not also representing a zero-dimensional redness space. Similarly, Warren's thought goes, in representing one object as brighter than another, or one as the ancestor of the other, we need not be representing the corresponding possibility space. And so while representing two objects as spatially related requires representing the shared space they both occupy, representing things as related empirically does not.

Despite this major contrast, there are significant similarities between the cases of space and these empirical spaces. To begin with, in both cases the representation of the space in question is distinct from the representation of the object in the space or from the representation of the particular relation in question. In both cases there are positions in the spaces, and these can either be empty or filled. Further, the fact that a position in a space can be empty or occupied by an object makes vivid that the representation of the object is distinct from the representation of the space. More significantly, both kinds of spaces codify structural features of the relations of objects in them—e.g. the ways in which the objects can be related spatially or according to their brightnesses. And further, although this will need development and qualification, just as there is little necessary structure to the empirical spaces, when considered apart from the way that objects are related in them, if we restrict our attention to space as it figures in the first argument, there is little structure that is required of it.

To see this last point first consider the empirical spaces. We arrive at these through abstracting from the representation of the relation of the objects and then constructing a space that captures the appropriate features of the relation. In this way, there are general features of any space that we must build into it, like that there will be positions that are empty or full, but for the most part the features that we build into the space will be a result of examining our experience of the empirical relation.

With the case of space proper, things are more complex. One thing that is required for

the first argument to work is that we represent space as already structured in the way that the relations between objects dictate. For example, to be able to represent ‘ x as alongside y ,’ since this is grounded in the representation of the space x and y share, the first argument requires that we represent space as structured in a way that allows x to be represented as along side y . Before considering this particular relation, however, for the sake of the first argument, this specific structural possibility is unimportant. The point of the first argument does not concern any particular structural feature of space. Rather, it only aims to establish the general point that spatial relations are the kind of relations that are grounded in the representation of space. It is in this sense that I am claiming the first argument does not require that specific structural features must be represented in space.

Still, there is an important contrast between the empirical and *a priori* cases. In the empirical case we build the structural features of the relation into the space. In the *a priori* case we represent the structural features as present in the space already. So whereas in the empirical case the representation of the space inherits its structural features from the representation of the relation between the objects, in the *a priori* case the representation of the relation inherits its structural features from the representation of the space. And although exactly what these structural features are doesn’t matter for the contrast, whatever they end up being in the *a priori* case, we represent them as already present in space.

2.2.2 Space does not analytically ground spatial representations

Beyond this contrast with empirical relations, we also need to see why the way in which the representation of space grounds the representation of relations in space is not analytic. It is analytic that if a is next to b , then a is spatially related to b . For, by representing the former, one represents the latter. Or, as Kant will sometimes put it, the relation ‘ x is spatially related to y ’ is contained in the content of the concept ‘ x is next to y ’—thinking the latter entails thinking the former. Furthermore, it is arguably analytic that if we represent two things as spatially related, that we also represent these things as in space. If that is right, then it can look like the claim of the first argument is merely one about an analytic relation, not a synthetic *a priori* one.

This objection is closely related to an objection which, as it applies to space, Allison traces back to Dryer (Allison, 2004, p. 103). According to it, although the representation of space may be presupposed by the representation of objects as spatially related, something similar is true of green objects: to represent something as being green, one must possess the representation of green. In both cases the claim looks not only analytic, but tautologous and empty. Of course one must have the representation in question to represent something through it. And if this is all the first argument is claiming, then that is true for empirical representations no less than *a priori* ones.

In evaluating these points the first thing to notice is that on the face of it, spatial relations and space are not the same. So claiming that representing spatial relations requires the representation of space, seems to be a more substantive claim than the tautologous one about representing green requiring a representation of green. Still, we might think there is a way of fruitfully reformulating the objection. What matters for representing green or spatial relations is that we have the capacity to represent these. If what the presupposition of the representation of space amounts to is the presupposition of a capacity to represent spatial things, then although perhaps not quite an analytic claim, it is still not all that interesting since no substantive distinction has been drawn between empirical and *a priori* features.

Of course, one way to object to the reformulated objection is by insisting on distinguishing the representation of space from the capacity to represent things spatially. I think there is a more substantive reply. Suppose we grant to the objector that representing two things as spatially related analytically entails that we also represent these things as in space. Since Kant maintains the representations of spatial relations are grounded in the representation of space and posterior to it, this does not look implausible. What matters for the first argument, however, is the other direction: the one going from the representation of space to the representation of relations in space. This, however, does not look analytic. When we think of the representation of space, we do not think of *a* as along side *b*. In representing the latter we must go beyond the representation of space and see how things are with *a* and *b*. Although the representation of the pen as along side the pencil might be grounded in the representation of space, this relation is synthetic because it goes beyond what is already thought in the representation of space. In this way, it is this direction of relation, this

synthetic grounding of the representation of relations between sensations, appearances, or ultimately objects of experience, in the representation of space which Kant is after in the first argument.

Nonetheless, as far as the first argument goes, the point can seem kind of weak. Of course how things are with the pen and pencil goes beyond what is thought in the concept of space. They are in the empirical world and space is *a priori*. Nonetheless, there is a stronger claim to be made on Kant's behalf. It is not just that the representation of space grounds the representation of relations between, and features of, outer appearances, but also that it grounds the *a priori* representation of relations between, and features of, possible objects in space. These possible spatial objects are *a priori* intuitions, which indicate the spatial forms that appearances or objects of experience can have, and can be thought of as the figures studied in geometry. It is because of the grounding that these figures, these forms of possible appearances, have in the representation of space that the kind of grounding directly at issue in the first argument obtains.

According to Kant, the way that the representation of space grounds the representation of relations between, and features of, possible objects in space is also synthetic. We cannot analyze the concept of space to discover that the sum of the angles of a triangle is equivalent to two right angles. Rather, in order to see this, we must construct a triangle, extend one of its sides, and then construct another line, in space. In this way, space is the ground of these constructions. It makes them possible. And it is therefore through space that we can come to know this fact about triangles.

2.2.3 Possible relationalist views

Now in the first argument Kant does not actually go into why the representation of space grounds the representation of relations of objects in space, or why the direction of dependence is not empirical. He seems to take it that his reader will simply agree with him and recognize this is true. The Leibnizian relationalist, however, holds the contrasting position, since she maintains that we arrive at a representation of space through abstracting away from the relations between spatial objects. And against Kant, accordingly, she would maintain

that the significant direction of dependence is the analytic one, not the one going from the representation of space to the representation of the relations.

Although Kant does not give any reason in the first argument for why the relationalist should accept it, he does develop the core point there into such a reason later on. What Kant maintains the Leibnizian can't account for, at least as he presents it in the *First Critique*, is the *a priori* certainty of mathematics (*KrV*, A40/B57).⁵ I take it that Kant's reasons for rejecting the relationalist view can only really be presented after more of the features of space are on the table. Nonetheless, the point of the first argument is still at the heart of why an *a priori* justification of mathematics is possible. If we begin with representations of relations between objects of experience and analyze the concept of space out of these, then the concept of space will be empirical, like our brightness line. Since we rely on space to do proofs in geometry, and space is empirical, however, geometry itself will have an empirical foundation.

We should not get too distracted by delving into the details of Kant's argument against the relationalist position, but there is one possible line of response that will be fruitful to consider. Suppose instead of maintaining that we begin with representations of relations between objects of experience, the relationalist maintained that we began with constructed figures, and then analyzed the concept of space out of these. Because such a view begins from *a priori* constructions, and then abstracts from the relations between these in order to arrive at the concept of space, without considering the relation of these constructions to experience, it would appear to have the advantage of being in a sense *a priori*. This strategy might then provide a way for a relational account to preserve the *a priori* validity of mathematics, at least insofar as by '*a priori*' we just mean 'independent of experience.'

Kant seems to claim, however, that any relational view, even one of this kind, will make

⁵In other passages, like in the *Prolegomena*, or the 1768 essay "Directions in Space," the decisive issue seems to concern the Leibnizian's inability to account for incongruous counterparts like right and left hands. The nature of these, and whether they can be made to coincide, depends on the orientability and dimensionality of the space they are in. To my knowledge Kant only directly discusses incongruous counterparts in three dimensions. And it seems plausible that Kant would have taken the concept of 'position in a space' to include whether or not the space is orientable. For these reasons I suspect there is an case to be made that Kant would have taken the argument against the relationalist view presented in the *First Critique* and the argument from incongruous counterparts to rest on the same fundamental features of space. Developing this thought properly, however, is a task for another occasion.

space into a mere creature (*Geschöpfe*) of the imagination (*KrV*, A40/B57).⁶ ‘Creatures’ are created beings, and Kant will use the term to refer to creatures of nature created by God, as well as representations arising in our various faculties. Earlier in this same passage, it is clear that the constructions of mathematics, which are synthetic cognitions that have their sources in space and time, are also creatures (*KrV*, A39/B55). On our revised view, since the representation of space is abstracted from relations of representations of geometric figures in space, and since Kant considers the latter creatures of the imagination, space will be such a creature too. In this way, although space does not depend on experience, this view still treats it as though it were abstracted from constructions that we bring forth through an elective act of the will. And if this is the basis of geometry, then although it is perhaps free from experience, it is still grounded in a contingent act of ours, and this is no better for securing the kind of certainty we expect from mathematics.

2.2.4 Why space could not have originally been a concept

For our purposes whether this relationalist strategy is ultimately defensible is besides the point. What is significant is the contrast it provides with the Kantian view. On this view we cannot begin with representations of spatial relations between objects and then arrive at the concept of space, either in the way that we form an empirical concept, or through an analysis of our concepts of these relations. This is so even if the latter are first and foremost concepts of relations between *a priori* forms of objects, and so free from experience.

Seeing that according to Kant we cannot analyze the concept of space out of the representation of spatial relations in this way, however, raises a question: could the direction of dependence laid out in the first argument itself be analytic? That is, could our representation of space be originally a concept, and could the representations of relations of objects in space be part of the content of this concept, thereby making the way that the grounding works analytic?

From a Kantian position it can be hard to see how the representation of particular spatial relations could be contained in the concept of space. The reason is that while these relations

⁶I am indebted to Stephen Engstrom for drawing my attention to the importance of Kant’s use of ‘*Geschöpfe*’ and its cognates here.

are more specific than space as a whole, when we analyze concepts, we move up to more abstract features that are contained in them. If we approach the issue from a more traditional perspective that doesn't distinguish sharply between concepts and intuitions according to the form of their containment relations, however, then I think we can see a few ways in which this might work. For example, if our concept of space were empirically robust, then we might suppose the content of the concept included a representation of everything in space. In this case we could merely analyze this concept to discover that the pen is alongside the pencil. Another way things might work is the concept of space could contain in its content all of the possible spatial relations of objects, without indicating what was actual. Then representations of all spatial relations, like ' x is next to y ,' would be contained in the concept of space although no empirical content would be. Since concepts are thought representations, if all of the possible relations of objects in space were contained in this concept and analyzable out of it, then like the slave boy in the *Meno* there is a sense in which we would be thinking of all of geometry simply by thinking of space. For, we would not need to go beyond this concept to discover geometric truths, but could merely analyze the content that is included in the concept of space already.

If space were originally a concept in one of these ways and we could analyze it in order to make discoveries about the relations of objects in space, however, then our knowledge of spatial relations would be very different than it in fact is. To see why we need to first understand better what the contrast is between such a case, where space is originally a concept, and a case where space is originally an intuition. It seems on either view, before considering a possible relation between two objects in space, we may not have considered this relation. If space were originally an intuition, then in thinking of this relation now, we represent it as grounded in space *a priori*, and so recognize a new spatial potentiality that was nonetheless there already. We then develop our concept of space accordingly. If space were originally a concept, and we were to analyze this relation out of it, then upon considering the new content we would recognize that it was already there in the concept of space, we just hadn't considered it.

What distinguishes the two cases for Kant is that in the case where space was originally a concept we would recognize that the content was already guiding us in our use of it although

we had never articulated it. It is in this sense that the content is part of what we already thought in the concept. When considering relations of objects in space, however, we do not find that these representations already guide us in the application of our concept of space. Rather, the rules governing spatial relations are unknown to us before we discover them. It is in this way that we come to learn new things about space that are not merely obscurely present in the content of the concept already, but which get added to it.

2.2.5 What it means for space to originally be an intuition

Kant does not introduce the claim that space is originally an *a priori* intuition, however, through an appeal to our geometric knowledge. Rather, in the third argument he claims that space is a pure intuition because it is originally one. That is, because when we consider many spaces these are only so many parts of a single space, and we arrive at any other spaces through introducing limitations on this original single space (*KrV*, A25/B39). In the fourth argument he adds to this that the original representation of space is an *a priori* intuition, not a concept, because “space is represented as an infinite **given** magnitude,” where it contains infinitely many representations within itself (*KrV*, A25/B40).

I will not dwell on expositing the third and fourth arguments, but looking at them briefly will help contrast space, which is originally an *a priori* intuition, with the categories, which are originally *a priori* concepts. Before turning to this, we should first note some differences between concepts and intuitions. Intuitions contain many other representations in themselves. Specifically, they can always be divided into further intuitions that are contained in the divided intuition. It is because there are many representations in one intuition in this way that I take Kant to claim intuitions are singular (*Einzelne*) representations.⁷ Concepts, however, are marks or features that can be found in many different representations. Although there may be concepts that only have one object (e.g. *God*, or *two*), it is essential to the form of concepts that they may be encountered in many other representations. It is because concepts are the kind of representation that indicates a unifying element in many different

⁷This point, that the singularity of intuitions is not so much a matter of their representing a single object as a matter of the way in which they contain many representations in a single consciousness will be controversial. I will not defend it here. One passage that I take to support this reading is (*KrV*, B136n).

representations that I take Kant to claim that they are general.

There seem to be two parts to what Kant is claiming in the third argument. If space is originally one, then first, it is an intuition, and second, it is *a priori*. Because space is originally one, it will contain all individual spaces within it. These spaces will be limitations of the single original one. In this way, not only will it contain many other representations in itself like other intuitions, and so have the form characteristic of an intuition, but it will also be the one single space that encompasses all others. It is, then, essentially single in a way that goes beyond the singularity of other intuitions, insofar as all of these are contained within it. For the *a priori* part, I suspect Kant's justification lies in how space reverses the empirical direction of dependence. With space the whole is prior to the parts. The parts are made possible through the limitation of space—they are grounded in it. For empirical intuitions, however, the parts are prior to the whole—it is through the aggregation of the homogeneous parts of the intuition of a cup of coffee that the whole intuition is formed, and the parts do not demand that they be considered together in the whole. If space were empirical, then its parts would be discovered in this way, but since they are not, space is *a priori*.

The fourth argument claims that space is originally an *a priori* intuition, not a concept, because it is an infinite given magnitude. Space is given insofar as we take it to be something that we find, not something that we make. And it is infinite at least insofar as we represent it as having an infinite number of representations contained in it. Now although concepts can contain other concepts or features as parts of their content, an analysis of this content will always come to an end in simple concepts that do not themselves contain any further content. So although “one must, to be sure, think of every concept as a representation that is contained in an infinite number of different possible representations (as their communal mark)” (*KrV*, A25/B40), concepts will never contain infinitely many other representations in themselves as space will, and so space is originally an intuition, not a concept.

Space contrasts with the categories insofar as it is originally an intuition. The categories are the fundamental concepts of objects in general, deployed in any thought of an object whatsoever. When the objects in question are sensible, knowledge becomes possible through these concepts. This knowledge will have an *a priori* form that is articulated through the

principles of nature in general, each of which is associated with a category. These principles, unlike the theorems of geometry or mathematics generally can be exhaustively exhibited. Insofar as they find new applications, it is because experience offers these, not because new discoveries are made about the form of experience dictated by the category. So unlike in the case of space, where we can continue to discover new *a priori* truths about the structure of this intuition that genuinely expand our concept of it, in the case of the categories, once we have articulated their fundamental principles, the only way that we can genuinely expand our knowledge of them is by finding uses for them that we have not yet considered. In order to really get this contrast into view, however, we will need to examine how things work in these cases more carefully.

2.3 REALITY

In the case of space we saw that its representation was distinct from the representation of what is situated in it. This was in part because the positions in space could be occupied or empty. In the cases of reality and causality, however, the analogous distinction between the formal representation and the representation of what is subject to it is less clear. For example, when we represent the brightness of something we seem to just be concretely deploying the category of reality. That is, representing the brightness of something seems to be what using the category of reality amounts to in this case, and there does not seem to be a distinction between representing something's brightness and representing a real quality belonging to it. Furthermore, it can seem that the only significant direction of relation in the case of reality is the analytic one, going from the representation of brightness to the representation of reality. For, *prima facie* it seems that we can represent brightness merely empirically, and so its not clear why reality, as an *a priori* concept of the understanding, would have a synthetic determining role in this. In this section, I will begin to lay out how the synthetic *a priori* relation between the category of reality and the representation of real qualities like brightness works.

2.3.1 background

While space was originally an intuition, the categories are originally concepts of an object in general. Because of this, one characteristic that will be important to keep in mind is that the categories can be used to think about intelligible objects like God, souls, or things-in-themselves, as well as objects of experience, like moving bodies. In this way, unlike space and time, their use does not seem restricted to experience or the phenomenal world. As concepts of an object in general they indicate mere roles that concepts must have in judgments, or what Kant will call ‘logical functions.’ For example, Kant says of reality that it is “that which, can be thought only through an affirmative judgment” (*KrV*, A246). When we use the categories to think about intelligible objects, we only think of a feature whose concept will fill this logical role. When we use the categories in relation to objects of experience or appearances, however, mere thought can progress to knowledge [*Erkenntnis*], because there is a rule for finding what fulfills this function, i.e. a rule specifying a feature that anything suitable for being thought through this concept will have. In the case of substance, this feature is permanence. In general, Kant will call this kind of rule for applying a concept its schema.

The first thing to note about realities or real qualities in particular, according to Kant, is that they are positive features or ‘determinations’ of something, rather than privations or absences, which are their corresponding negations. Examples include light as opposed to dark, or heat as opposed to cold. In each case the privation (darkness, cold) is the absence of the positive feature (light, warmth).⁸ And although logically or verbally the two kinds of qualities appear to be on a par, because they seem to be used in judgments in the same way, there is a metaphysical difference.

A second further characteristic of real qualities is that they may not be actual or exist. When we recognize that a concept is of a reality, we are not making a claim about existence, but only claiming that it is a positive property, rather than an absence or negation. Every possible object will have some real qualities, but not every possible object will exist. And claiming some quality is a reality, a positive property, does not entail a claim about its

⁸I will not say much more about the differences and relations between the categories under the heading of quality: reality, negation and limitation. For more on this topic see ([Longuenesse, 1998](#), ch. 10).

actuality.⁹

Setting intelligible objects to one side, a concept will be of a real quality for appearances if it is the concept of a possible positive sensible quality of the object, which will have a degree of influence on sense (be it direct or indirect). On Kant's account, appearances are "the undetermined object of an empirical intuition" (*KrV*, A20/B34). Both empirical intuitions and appearances have a matter and a form. On the one hand, the formal part of an empirical intuition or perception is its corresponding pure intuition, which represents the spatial and temporal features of the appearance. Sensation, however, is the matter of intuition. So, for example, my empirical intuition of a red scarf will fill space and time and thus both have a form, in virtue of occupying this spatio-temporal region, as well as a matter, in the sensation of red. On the other, the form of an appearance is its position in space and time. The matter of the appearance is that which corresponds to sensation (*KrV*, A20/B34), which Kant will call the real of appearance or "reality (*realitas phaenomenon*)" (*KrV*, A168/B209). The real is the sensible quality like the warmth, light, redness, or impenetrability, that the sensation represents. In this way it is the object of sensation (*KrV*, A165/B207). Such a sensible quality (reality) is thought of as what fills space and time, and an absence (negation) of real qualities is the way in which regions can be empty (cf. *KrV*, A143/B182).

Both sensations, and their corresponding reality, have an intensive magnitude. Intensive magnitudes contrast with extensive ones. An extensive magnitude is a quantity that is composed of homogenous external parts. Our intuitions in space and time are examples of such compositions. And appearances themselves, as objects in space and time that we become conscious of through these intuitions, will also be extensive magnitudes (*KrV*, B202-203). Intensive magnitudes, however, are not thought of as composed of mutually external parts. Rather, they are apprehended as unities, because all of their parts are present in the same place and at the same instant. Nonetheless, they have a degree of intensity that can be measured. This is so equally for sensation, as the matter of empirical intuition, and the real in appearances, which corresponds to it.

To measure the degree of a sensation, we begin by taking it (or any sensation of the same kind) as our unit measure of intensity. Then we imagine the intensity reducing continuously

⁹For a more in depth discussion of these characteristics of realities see ([Warren, 2001b](#), ch. 1, §1).

down to zero at a constant rate. In this way, using the initial intensity of the sensation, which will count as a ‘one’ on the intensity scale, and a fixed rate of diminution, we can create a scale of measurement. For, on this scale we can measure the degree of other sensations of this same kind, however intense they might be, by bringing the intensity of our imagined sensation back up at the same rate, and comparing it to the sensation we are measuring until the two are the same. The amount of time it takes to reach this equilibrium is a measure of the intensity of the sensation (cf. *KrV*, A166/B207-A176/B218; *Prol*, 4:309). And Kant maintains this intensity, in turn, will also correspond to the intensity of the real in the appearance as its degree of influence on sense (*KrV*, B208).

2.3.2 An empirical version of reality?

With this background in place, we are now ready to turn to how the representation of reality grounds the representation of intensive relations between, or features of, objects. In sensing the real, there is always an empirical element, the particular quality, which cannot be anticipated *a priori* (*KrV*, A175/B217). We cannot, for example, anticipate what it would be like to taste pineapple, see blue, or feel weight, prior to having these sensations. Nonetheless, we can anticipate *a priori* that a quality will have an intensive quantity, that it will have a degree, through the form of a quality space. This is so both for the degree of sensation and for its corresponding reality.

When I introduced Warren’s notion of an empirical brightness space I said that we would have to examine more closely than he does what exactly the *a priori* and empirical elements are that enter into the representation of such a space, or the representation of qualities like brightness, if we are going to get clear on how the kind of synthetic *a priori* determination we are investigating works in general. Preliminarily, in merely perceiving something, we apprehend its brightness, and this seems to be purely empirical. In spreading out the intensity of this quality in its imagined diminution to zero, however, we are creating our brightness-line through the category of reality. According to Warren, the concept of the brightness line is empirical, but if it relies on the category, then it would seem to have an *a priori* element to it.

In order to understand what this *a priori* element is it will help to contrast Kant's account of reality with a more strictly empirical account of it. On such an account, the representation of intensive relations between, or features of, objects grounds the representation of reality. That is, the proponent of such an account would maintain that the origin of the features of the representation of reality lie in the representation of the relations between, and features of, objects with real qualities. In this way, she would maintain that by examining, say, the brightness relations between various objects, the forces moving bodies exert on one another, and the differences in temperatures between various things, and abstracting away from what is specific to each of these qualities, we form the concept of reality.

It can be hard to see what is wrong with this view. For, it seems that we can encounter the brightness of this, that, and another thing, and on that basis form the concepts of brightness and brighter than through abstraction in the way that we form any empirical concept. It also seems clear that over time, after experiencing the brightness of many different things, we could even form the concept of a brightness space in which we situate the brightnesses of the various things we've encountered. And after doing this for a number of different qualities, it seems we could abstract away from a number of such spaces, and form the concept of a quality space in general, which would then give content to the concepts of sensation or reality in general.

Finally, it even seems that we could imagine that these empirical quality spaces indicate degrees of the quality in question. For example, suppose we encountered a tallow candle and could read with it at a distance of one foot. Then, later, suppose we encountered a wax candle with which we could read just as well at a distance of two feet. Using the first as a kind of unit, we could say that the illumination provided by the wax candle was twice as strong. In this way, it seems we could imagine arriving at a merely empirical concept of a degree of brightness. In such a case the proposed merely empirical concept of reality would seem to provide a great deal of mathematical sophistication, and so would be on its way to performing the objectifying work that we would expect from the category.

What Kant would claim goes missing from this merely empirical concept of reality, I think, is all of the possible brightnesses we have yet to encounter or anticipate. For example, with a merely empirical concept of brightness I might wonder whether I will encounter

something with the same brightness intensity as one of the things I have already encountered, and supposing I have encountered a , which was brighter than b , I might wonder whether I will encounter something with the feature of being brighter than one, the other, or both of them, in the future. None of this goes beyond being able to reproduce in memory, or anticipate in imagination, specific brightnesses.¹⁰ Maybe as time goes on I am able to fill in various gaps in my empirical space through experiencing more bright objects. Maybe I can even get far with this by anticipating encountering specific brightnesses between various other already encountered or anticipated brightnesses. What I cannot do, however, is fill in all of the gaps and make the space continuous. For there is no experience that can tell me a continuum of brightnesses are actually possible.

Because of this, if one were to only have a merely empirical concept of brightness or reality, entertaining a general claim like ‘if a is brighter than b , and b is brighter than c , then a is brighter than c ’ would not have the same sense as it would with our concept of brightness. I can recognize that in the past every a , b , and c , of different brightnesses has had the property that one was brighter than another, which was brighter than the third, and I can wonder whether I will encounter this property again in the future. Maybe I can even run through a number of further imagined brightnesses and see that it holds for them as well. I cannot, however, wonder whether this property holds of all possible brightnesses, whether I *could* encounter something that doesn’t conform to it, for this requires a conception of possible brightnesses that goes beyond what I have already encountered or anticipated. In this way, because the empirical concepts do not allow me to consider all possible brightnesses or realities, they also do not allow me to consider what is in general true of brightness or of reality. That is, they do not allow me to consider what will hold of everything that is bright merely in virtue of its being such, which is to say, they will also not allow consideration of what is necessarily true of bright things.

¹⁰This power of anticipation is an element of the rational reproductive imagination (*MM*, 29:884). It is the faculty of foresight, which is the counterpart of memory, and is particular to rational animals because it is subject to the will (*Anth*, §34, 7:182).

2.3.3 Reality does not ground representations analytically

It can be tempting to think of the relation between reality and real qualities as analytic because the category is contained in the concept of a real quality, like brightness—if a is brighter than b , then a exhibits a real quality more intensely than b . For, according to Kant, brightness is just one concrete form of reality: the concepts of brightness, heat, and weight are nothing other than the concept of reality applied to appearances *in concreto* (cf. *KrV*, A567/B595).

This relation is even more clear than the corresponding analytic relation in the case of space. Part of why is that reality is originally a concept, not an intuition. When we thought of a relation in space, although we presupposed an intuition of space that this relation was grounded in, we did not presuppose that all of the features of space already guided us in applying the concept of the relation in question. With brightness and reality, however, matters are otherwise. When we think of a kind of sensation, or sensory real quality like brightness, we already think of it as an intensive magnitude with continuous degrees. For example, take the concept of temperature. Although we may have never considered what it is to be a real quality, or what intensive versus extensive magnitudes are, when we use the concept of temperature the fact that there are a continuous gradation of temperatures guides us. This is already part of the content of our concept.

Another way that this difference with space emerges is through the structure presupposed in the representation of real qualities. What we saw when we considered the first argument was that because space is originally an intuition, it could be substantively claimed that the representation of spatial relations depended on the representation of space without needing to specify its exact structure. This is not so for reality. The contrast with the empirical case only emerges with the contrast between a discrete or continuous scale. The way that the representation of real qualities depends on the representation of reality is that it is only through the category of reality that a continuum of intensive magnitudes can be represented. And so when we learn more about real qualities or reality, we do not learn more about the *a priori* structural form of their possibility space, rather we learn of new sensations and qualities empirically, and discover new instances of these in the world. Unlike in the case

of space, the *a priori* component is all there from the beginning, although it may not be explicit. There are no further *a priori* forms of real qualities to discover, and there is no science of these forms to develop, there is just what is already present with the category of reality.¹¹

Still, despite the possibility of exhaustively exhibiting the form of real qualities, the relation between the concept of a real quality and its having a degree of intensity is not analytic, but synthetic. Considered as a concept of an object in general, realities are just that which are properly thought through an affirmation, and that does not contain the thought that they will have a degree. Adding that the reality in question is sensible, however, may bring with it that it has an intensity, and adding that the object in question is spatio-temporal will make measuring this intensity possible. Nonetheless, these developments of the category are not analytic. We cannot merely analyze the concept of a reality and of a spatio-temporal object to arrive at them. Rather, it is because of the way these features interact synthetically that these rules for the concept's application emerge.

We can bring this contrast into sharper focus by comparing the way sensible rules for applying the categories of quality develop these concepts with the way in which coming up with a rule for drawing triangles develops the concept triangle. For, according to Kant, the way in which the representation of reality determines a form for quality spaces, and then determines the features of qualities is analogous to the way a mathematical concept determines a rule for constructing its instances. Of course, there are differences. The construction of a quality space begins from something empirical, given in sensation, not pure intuition. And it does not add or remove parts external to the quantity already constructed, as with an extensive magnitude. Nonetheless, as we saw in the last section, a line forms the representational basis for a quality space, and inherits its structural features from it. The reason is that in constructing a quality space, we build on the same activity through which we draw a line. When we draw a line, we trace out a space, which takes time. We construct the quality space through the gradual, constant diminution and then augmentation of the quality. Here we are still imagining tracing a space, but now in addition we are simultaneously manipulating

¹¹For further discussion of why reality could not be originally an intuition that approaches the topic from a different direction, and is in tension in some respects with the considerations I've offered here, see Warren's discussion of Anneliese Maier's view ([Warren, 2001b](#), §3).

the quality. It is because of this correspondence that we can organize sensations and their corresponding realities as greater or lesser, and thus as having a magnitude, according to their positions in the temporal order of the process of constructing the space.

2.3.4 An empiricist objection

Now we have a start with understanding how, on Kant's account, the representation of reality grounds the representation of intensive relations between, and features of, objects. For the continuum of possible brightnesses constructed through the category of reality will determine the possible and necessary features of, or relations between, brightnesses as intensive magnitudes. We will only be in a position to see why the representation of these possibilities and necessities are critical to the representation of the real qualities of objects, however, when we have examined causality later in this chapter. In the rest of this section I would like to clarify further the nature of these possibilities and necessities by examining the way in which these indicate the form of possible experience in general.

I will do this through considering an objection. According to it, one should prefer the empirical version of the concepts of reality and brightness to Kant's on empirical grounds. The objector maintains that it is not in fact the case that the quality spaces of the intensive magnitudes of our perceptions are continuous. For any sensible quality there is a degree of difference small enough that we cannot detect it. Similarly, this objector might maintain that the real qualities of at least some natural objects are also not continuous. There are things that are either in one energy state or another, and there is not a continuous gradation of such states between them. Now whether the empirical claims the objector is making are right is a little besides the point. For, even if they aren't, they could be. And Kant seems to be pronouncing on these empirical questions *a priori*, without considering empirical evidence. If there were some form of realities in general, then this objector maintains discovering it will be an empirical matter.

On the Kantian way of thinking, this objection has matters backwards. Although of course what is actual is possible, the actual cannot tell us the extent of what is possible or what is necessary. Furthermore, the kind of possibility in question is a matter neither of what

is possible for creatures with our empirical psychology, nor of what is physically possible. Rather, this possibility belongs to transcendental metaphysics and concerns both the form of any capacity to objectively represent real qualities situated in space and time and the general form of these objective real qualities. These forms obtain *a priori*, before considering the empirical constitution of our particular sensory capacities, and before considering the specific nature of the real qualities of objects we encounter. There may be further conditions that enter in at such a stage that cause gaps in what is actually possible, but this does not effect the form of what is possible in the relevant sense.¹²

This last claim will seem controversial, and it will need to be spelled out. Preliminarily, my thought is as follows. According to Kant, sensation, and the real of appearances that corresponds to it, are apprehended in a moment. This apprehension is empirical. Once apprehended, however, we can construct *a priori* a quality space from these, and thereby determine their intensive magnitudes. This constructed space may include a representation of possible sensations that cannot in fact be sensed, or a representation of real qualities that cannot in fact exist. Analogously, according to Kant, we can construct a line in geometry that can be infinitely subdivided, but this does not commit us to the possibility of infinitely subdividing matter, nor does it mean we could always divide a line we draw in empirical consciousness. In both cases, the possibility in question is transcendental, not physical or psychological.

It is clear from the “Anticipations of Perception” that Kant maintains the laws of nature in general, as described by transcendental metaphysics in the *First Critique*, do not exclude discontinuous actual real qualities.¹³ For, there he is explicitly concerned with leaving open

¹²Bennett recognizes the possibility of this kind of reading (Bennett, 1966, p.172). He dismisses it as anticipating experience only rather feebly. Admittedly, on such a reading work would need to be done to connect up with empirical facts. This does not, however, entail that this reading is incorrect or preclude the importance of this claim for the form of an object in nature in general.

¹³Although Kant can seem to be addressing the possibility of discontinuous empirical sensory capacities at the end of the anticipations (*KrV*, A175/B217-A176-B217), I don’t think he is. There he is in part concerned with “the possibility of the inner variation of the sensation itself” and how the understanding can assert something synthetic *a priori* “about that which is really merely empirical, namely what pertains to sensation” (*KrV*, A175/B217). In answer he goes on to appeal to the activity of diminution and augmentation that can be performed *a priori* in inner sense to construct a quality space. The quality of the sensation, he points out, is always merely empirical, but we can cognize *a priori* that the quality will have an intensive magnitude. He does not, however, go onto consider whether our empirical capacity of sense is actually capable of having a continuous gradation of sensations. This should be unsurprising since this is a question which belongs to empirical psychology or anthropology, not metaphysics.

the possibility that the difference between the forces two quantities of matter occupying identical volumes of matter exert is to be explained not through the portions of this matter exerting different degrees of intensive forces on each other, like weight or resistance to other matter (impenetrability), but through there being different amounts of empty and filled space in this region (*KrV*, A172/B213-A175/B217). If that were the case, then the difference we perceive in, for example, the resistance bodies exhibit to other bodies, would be explained in terms of the extensive magnitudes of empty and filled space in a region. On such an account, far from real qualities in nature having a continuum of intensities, ultimately they would all have the same intensity. Whether this kind of view is correct or not, Kant maintains, depends on further considerations that move beyond the category of reality.¹⁴

2.3.5 The objects of perception

The point that the quality spaces grounded in the category of reality mark out, in the first instance, transcendental not physical or psychological possibilities, can be specified further through considering the nature of the objects in question. Kant will distinguish perceptions from experiences. Perceptions come forward in the subjective flow of inner sense and are empirical intuitions that have sensation as their matter and fill a region of time or space that is their form. Only in experience do we represent the temporal order of our perceptions as determined by what is happening in the world, and so it is only in experience that we represent objects in nature. As we will see in the next section, the categories of relation—substance, cause, and community—are critical to this representation of a determinate existing object, what Kant calls an object of experience, and it is only

¹⁴These contrasting views of matter are the mechanical and dynamical conceptions from the *Metaphysical Foundations of Natural Science*. For more discussion of why the considerations in the Anticipations of Perception do not decide between them, see (Warren, 2001a, p.97-99). Warren maintains that the claim that all alterations are continuous, which is supposed to be established in the Second Analogy, rules out the mechanical conception, although he maintains a direct argument to this effect comes in the *Foundations* (Warren, 2001a, n10). Kant, however, seems to deny that this can be established in transcendental philosophy at all (*KrV*, A171/B213), and so seems to forestall treatment of the issue until the metaphysics of extended matter. Nonetheless, because the principles of the dynamical use of the categories are *a priori* necessary “only under the condition of empirical thinking in experience” (*KrV*, A160/B199), it could be argued that the requisite presupposition of empirical principles (*principien*) for knowledge of the “causality of an alteration in general” is given by the time Kant gets to considering the dynamical categories (*KrV*, A171/B213). If that is right, then space is open for Warren’s position.

through the dynamical categories that the mathematical categories, those of quantity or quality, can be applied to objects of experience. At the end of the day, it is these that are the proper objects of all of our theoretical knowledge and it is the real qualities of these that are the realities we ultimately cognize through the categories of quality.

Nonetheless, when we consider perceptions or empirical intuitions on their own, the mathematical categories pertain to their possibility, while the dynamical categories under the headings of relation and modality only regulate them. One place where this comes out is at the beginning of the Analogies of Experience where, in the proof of their general principle, Kant claims that experience is a combination or synthesis of perceptions (*KrV*, B218-219). The axioms of intuition and anticipations of perception pertain “to appearances with regard to their mere possibility,” in that these concern the possibility of perceptions and appearances at all, as something real filling time or space, whether they have a determinate relation to an object of experience or not (*KrV*, A178/B221). In this way, there is some sense in which the more proximal objects of the mathematical categories are appearances, which have not yet been determined through the categories of relation and whose relation to an object of experience has not yet thereby been recognized. We will need to specify this sense further, but for now it is worth remarking that when I claimed against our empirical objector that the possible appearances in question belonged to transcendental metaphysics it is the possibility of these mere appearances that I had in mind.

Kant will describe these objects of perception but not yet experience, as follows:

Appearances, as objects of perception, are not pure (merely formal) intuitions, like space and time (for these cannot be perceived in themselves). They therefore also contain [*enthalten*] in addition to the intuition the materials for some object in general (through which something existing in space and time is represented), i.e., the real of the sensation, as merely subjective representation, by which one can only be conscious that the subject is affected, and which one relates to an object in general. (*KrV*, B207-208)

In this passage, and the corresponding one at the outset of the axioms of intuition (*KrV*, B202), Kant seems to be identifying appearances and empirical intuitions or perceptions. Further evidence for this comes when he says things like, “every appearance as intuition is an extensive magnitude” (*KrV*, A163/B204). Finally, in the Analogies Kant claims that the appearance, as an object, can only be distinguished from the apprehended perceptions that

represent it, if the order in the manifold of these perceptions is represented as determined by a causal rule (*KrV*, A189/B234-A191/B236). Accordingly, prior to such determination, Kant does not recognize a sharp distinction between perceptions and appearances as their objects and would maintain that insofar as one can speak of such a distinction here one is retrospectively looking back from a later stage where the dynamical categories have been applied.¹⁵

Now, what exactly is the sense in which perceptions or mere appearances as objects of consciousness can be the more proximal objects of the categories of reality, although objects of experience are their ultimate ones? Perceptions themselves only require apprehension, and this kind of combination or synthesis of the manifold of intuition—the component intuitions that constitute the perception—is a mere juxtaposition (*Zusammenstellung*), with no representation of the necessity “of the combined existence of the appearances” (*KrV*, B219). That is, in the perceptions there is no representation of the necessary combination of the sort that would allow the representation of an existing object in the world, only a mere representation of juxtaposition. Representation of existing objects only comes with experience, which is constituted by such connected perceptions, and includes a representation of the relation of the perceptions to the objects. Accordingly, although we can represent the intensity of the reality corresponding to the sensation in a perception in a preliminary way through the categories of quality, it is only with experience that we relate these perceptions to a determinate object. Until then, although we may be able to say there is something or other really affecting us in this way, and we can ascribe a degree to the reality relative to other realities of the same kind according to the intensity of their corresponding sensations, this degree of reality will not tell us anything determinate about the causal powers of objects

¹⁵One interpreter who agrees with me on this point is Béatrice Longuenesse ([Longuenesse, 1998](#), p. 300-301n, 302). I think, however, that there is more of a case to be made for an opposed position than she seems to allow. At points in the openings of both the axioms and anticipations Kant claims that appearances contain (*enthalten*), first, an intuition in space and time (where what he has in mind is the *a priori* form of a perception or empirical intuition), and second, the real of the sensation. Accordingly, one might argue that rather than identifying appearances with perceptions here, he is thinking that appearances will contain them. Nonetheless, even if this kind of reading could ultimately be made to work, at this stage, on it representation and object would still be very close, and I don't take too much to hinge on whether perceptions and appearances are identical or not when abstracting from the determination of their relations. At this point, either way, the perception is not related to a determinate object, but only some 'object in general.'

in nature.¹⁶

2.3.6 Partial independence from the dynamical categories

In a preliminary way, then, I believe that Kant maintains we can represent the intensive magnitude of a real quality of a perception, prior to appealing to the dynamical categories of relation in the constitution of experience. We need to clarify this capacity further. According to Kant, prior to experience proper, through the construction of a quality space, we can assign the sensation or reality in a perception a degree or intensive magnitude, and on the basis of this even add degrees to that magnitude, which requires the further representation of an increment of sensation.¹⁷ This will be controversial, and for what looks like good reasons. Consider the following. Look at a lamp. Close your eyes. Imagine decreasing the brightness of this down until you reach complete darkness. Now imagine using the scale you have just created to measure the brightness of other things. Unless your memory and imagination are fantastic, you will not be able to do it, let alone imagine what it would be to take the brightness of the lamp as an increment and add it to the lamp's original brightness. Similarly, more simply, if you imagine two lines and then try to measure the longer one by the shorter, you might be able to do it, but more likely not. Measuring ratios in imagination is at best difficult and at worst not possible. Kant's remarks from the preface to the *Metaphysical Foundations of Natural Science* that an empirical science of the soul is impossible in part because "mathematics is not applicable to the phenomena of inner sense and their laws" seem to indicate that he agrees (*MAN*, 4:471; cf. 4:478).

Nonetheless, I think Kant would maintain this is merely an empirical limitation of our imaginative powers. In principle, the form of extensive and intensive magnitudes is such as

¹⁶Analogous considerations hold of the spatial and temporal form of intuitions and the extensive magnitude of the appearance they indicate. For, this shape of an intuition is only recognized to be the shape of a substance in the world through the categories of relation determining the order among my perceptions and their relations to objects of experience.

¹⁷This will seem at odds with the account Daniel Warren offers ([Warren, 2001b](#), ch. 1, §5). I do not think it is clear whether it in fact is. In a footnote Warren distinguishes a weak sense in which the mathematical principles of the axioms and anticipations can enable us to determine appearances as magnitudes prior to bringing in causal considerations ([Warren, 2001b](#), p. 25n). It is unclear, however, whether by distinguishing this weak sense Warren wants to allow a correspondingly weak sense in which addition of intensive magnitudes is possible. If he does, then we do not disagree on this point.

to allow this kind of comparison and even augmentation. That this is Kant's view is evident in a text following the one just cited about the mathematical categories offering constitutive principles of appearances. There he goes on to claim that the form of extensive and intensive magnitudes is such as to allow this kind of comparison and even augmentation when he says that the axioms and anticipations

taught how both their intuition and the real in their perception could be generated with rules of a mathematical synthesis, hence how in both cases numerical magnitudes and, with them, the determination of the appearance as magnitude, could be used. E.g., I would be able to compose and determine *a priori*, i.e., construct the degree of the sensation of sunlight out of about 200,000 illuminations from the moon. (*KrV*, A178-179/B221)

Here Kant is clearly endorsing the possibility of incrementally constructing the intensity of the sensation of the illumination of sunlight out of the intensity of the illumination of the moon. For us to be able to properly measure the intensity of the illumination of the moon and attribute it to this body's causal power, or to attribute 200,000 times this power to the sun, and thereby ascribe these real properties to objects in the world would go beyond this merely possible construction in imagination, and require the category of cause applied to these, as objects of experience. Nonetheless, prior to this, it seems we can cognize the intensity of the sensation of these illuminations, as mere subjective magnitudes of objects of perception, through the categories of quantity and quality.¹⁸

Now, granting that the dynamical categories are involved in cognizing the real qualities of objects of experience, there is a question that remains over whether these categories are also involved in the use of the mathematical categories with mere perceptions, prior to experience. Specifically, it can seem they are involved in this application for the following reason. The schema of reality involves the "continuous and uniform generation" of the intensive magnitude of something insofar as it fills time (*KrV*, A143/B183). As we saw, this was built on the same activity through which we draw a line in imagination. But it seems that Kant thinks it is only once we appeal to causal powers that we can determine whether

¹⁸It might be thought that there is something more objective going on in this passage. After all, Kant does bring up the real in perception, and an illumination from the moon can sound like a feature of the moon, not a mere object of consciousness. Nonetheless, as we've seen, the mere real in perception, prior to experience, is not an objective feature of an object in nature. And what we are constructing here is the intensity of the *sensation* of sunlight, which is subjective, even if the illumination from the moon that we are beginning with were objective.

a line was generated by a point that was accelerating or one whose velocity was constant (*KrV*, B292). And so it would seem that it is only through the category of causality that we can apply reality via its schema. Of course, the motion of the point in question involved in the constant diminution is taking place in imagination not in the world. Nonetheless, Kant maintains that we must grasp even inner alterations, the successive existence of different states in ourselves, figuratively through the motion involved in drawing such a line (*KrV*, B292). Thus, it can seem that insofar as the application of the categories of quantity or quality depend on this capacity for uniformly generating a line in imagination, they will also rely on the application of the category of causality to ourselves.

If we are careful to distinguish between the psychological process of drawing the line in inner sense, and the form of our capacity for representing intensive magnitudes, however, then I think we will see there is good reason to reject this involvement of the dynamical categories, at least at the level of description Kant is after in the first *Critique*. The key is Kant's distinction between two senses of motion in the footnote to §24 of the deduction:

Motion of an **object** in space does not belong in a pure science, thus also not in geometry; for that something is movable cannot be cognized *a priori* but only through experience. But motion, as **description** of a space, is a pure act of the successive synthesis of the manifold in outer intuition in general through productive imagination, and belongs not only to geometry but even transcendental philosophy. (*KrV*, B155)

It is the *a priori* motion of a point in describing a space, not any empirical motion of an object, that is relevant for the construction of a quality space and the application of the category of reality to mere perceptions.

Just as how it is irrelevant to a geometric proof whether a line we draw on a piece of paper is exactly straight, it is also irrelevant to the *a priori* form of our capacity for representing intensive magnitudes whether the rate of diminution in imagination is actually constant. Empirical imperfections in execution do not matter because it is the *a priori* act of construction, or the “pure act of the successive synthesis” as Kant refers to it, that we attend to in working with the empirical product in both cases. If we were concerned with cognizing an empirical inner alteration in ourselves, then an appeal to the category of causality would be necessary. But this is not what is at issue here. And for the sake of the *a priori* act of construction, it seems a constant rate in the description of the space can be presupposed.

Now, in order to get the full account of how the category of reality grounds the relations between, and features of, real qualities we will need to understand how it cooperates with the dynamical categories to make knowledge of these possible. We can, however, already distinguish two ways in which reality grounds real qualities, even if the categories of quality rely on the dynamical categories in their application to objects of experience. First, when we consider the sensation in perception, the categories of quality still ground the space of possible intensities of the sensation in question. Second, because the categories of quality ground the space of possible intensities of sensation in this way, they also ground the possible qualities of objects of experience as well.

2.4 CAUSALITY

How causality grounds the representation of causal relations between, and features of, objects is like the case of reality in many ways. As with reality, although the representation of any causal connection in nature will begin from an empirical component, we cannot derive the concept of cause itself empirically. Furthermore, this *a priori* representation of cause is also originally a concept, and on Kant's account there is an *a priori* form of causal interaction that can be exhaustively exhibited, which we rely upon in representing any causal connection. Finally, like with reality, although the concept of cause can be analyzed out of the concept of a causal interaction or law, the way in which the category determines *a priori* the representation of causally interacting objects is synthetic.

Because of these similarities my focus in this section will be on bringing out the contrast. This contrast will hold for the mathematical and dynamical categories generally, and will be closely tied to what Kant means when he claims the principles of the former, the axioms and anticipations, are capable of intuitive certainty, while the principles of the latter, the analogies and postulates, are only capable of discursive certainty (*KrV*, A162/B201).

In this section I will be examining how the categories of relation, through examining causality in particular, ground experience. Experience, according to Kant consists in connected perceptions—that is, perceptions where we have represented their order as either

necessary or contingent. Experience is of objects that are situated in the objective temporal order. The way that the categories of relation ground experience is through grounding possible experience, which is what makes the representation of the objective temporal order possible. In experience, through perceptions actually being given, we represent what is and what happens. And although this experience has an ineliminable empirical component, it also has its synthetic *a priori* grounding in possible experience, which depends on the categories of relation.

2.4.1 Background

Formulating and clarifying exactly what this claim amounts to and why Kant maintains it obtains will take some care. Specifically, we will need to take a look at Kant's arguments in the Second Analogy. As the Doctrine of Principles precedes, each principle builds on the last, and the relationship between the First and Second Analogies (as well as the Third) is particularly intimate. In the first, Kant establishes that "all change (succession) of appearances is only alteration" (*KrV*, B233). What he means to be claiming here has two parts. First, he is making a negative claim that substance, as the permanent object in appearances, does not arise or perish, and is the substrata in which all change takes place, but does not itself change. Second, he is making the positive claim that all changes are alterations in the states or determinations of this substance, which successively pass from being to non-being or vice-versa.¹⁹ Here, Kant's reference to the being or non-being of the determinations of a substance seems to be a reference back to the schema of reality and negation (*KrV*, A142/B182, cf. A186/B229). These states would then be real qualities or privations that obtain of the object, and it seems that in the first instance the states of the substance that he is thinking of are such qualities (esp. moving forces).

Now it is the distinction between the alterations taking place in the object and the mere alterations in one's subjective perceptions that is critical for the contrast between reality and causality I am after. Although perceptions and appearances (as their objects) are very close, when we turn to considering experience, which consists in connected perceptions, and

¹⁹Other commentators who have also pointed out the importance of conceiving of alterations as the change of state of a substance include: (Longuenesse, 1998, ch. 11), (Watkins, 2005, ch. 4).

its object, the distinction is sharp. Although in the First Analogy we are introduced to this object as the permanent in the manifold of appearances in which we represent simultaneity and succession, it is in the Second Analogy that Kant introduces the distinction between the subjective and objective succession of the manifold of appearances. The apprehension or empirical consciousness in mere perceptions is always subjective and successive. Time, the form of inner sense, constantly flows and with it so does our empirical consciousness of apprehended perceptions. When we represent a manifold of appearances as in the object, however, we represent it as either successive or simultaneous. When we represent the order in our subjective apprehension of appearances as not determined by the object—when I could have equally apprehended the door before the window or the window before the door—then we represent the appearances in the object as simultaneous. When we represent the order in our apprehension as determined by the object, however—when I must have seen the ship upstream before I saw it downstream—then we represent the appearances in the object as successive (cf. *KrV*, A190/B235-A192/B237).

Here we should pause over what Kant means when he speaks about ‘the apprehension of the manifold of appearance being successive or simultaneous in the object’ (*KrV*, A189/B235). We represent this apprehension as “in the object” when we represent the object as determining whether our apprehension could be simultaneous or must be successive. In so doing, we represent the order of perceptions in the possible apprehension of other knowers as also determined in this way. This emerges when we make judgements about the object, in that we expect other knowers should agree with it, at least if suitably situated. Accordingly here, unlike in the case of the brightness of a perception, I do not just represent the subjective order in my own possible representations as determined, but also represent the order in the possible perceptions of other knowers as determined as well. In this way, I represent the object as necessitating a certain order in these perceptions, and thereby move beyond the merely subjective flow of perceptions and their properties in inner sense, now representing objects situated in nature in an objective temporal order.²⁰

Care is required here in considering the nature of the object in question. It is not a

²⁰I will return to this point in discussing subjective and objective universal validity in relation to judgments of perception and experience in the next chapter.

thing in itself, for then, as Kant puts it, “no human being would be able to assess from the succession of representations how the manifold is combined in the object” (*KrV*, A190/B235). His thought is that our only contact with things in themselves is through our representations, through how they affect us, and so whatever knowledge we can acquire will only be of representations, not of the objects as they are in themselves apart from these. In this way, when we consider the house or the ship, these are not things in themselves, but only appearances. But even considering these appearances as objects, they are nothing more than a sum of successively apprehended representations (*KrV*, A191/B236). Accordingly, we can conceive of these appearances in two ways, subjectively, as a sum (*Inbegriff*) of representations whose apprehension is always successive, and objectively, as the objects of these representations that are situated in time (where this is the objective temporal order of nature). When we consider appearances as objects, we represent them as determining the order of our perceptions, and in this way we represent the manifold of appearances as combined in the object (a mere appearance), not only in our subject.²¹

The way that this representation of appearances as combined in the object can take place is through the representation of a rule, as that with which the apprehension of perceptions necessarily accords. For it is this necessity in the combination of perceptions that is attributed to the object as determining whether its apprehension must have had this order (as with the ship) or could have been the reverse (as with the house). What is important here for our purposes now is this notion of a determination in the order of perception and that it is through representing our perceptions as determined that we represent objects like the ship or the house. We can abstract away from the particular issues that arise concerning succession and simultaneity themselves, or concern the differences between the categories of causality and community as the categories through which successive and simultaneous causal interaction are cognized.

One point that needs to be noted, however, is that the effect begins at the first moment of the cause, although sometimes the realization of the effect takes time. Accordingly, many causes are simultaneous with their effects. In these cases we might perceive the effect before

²¹I will also be examining the nature of this object as a sum of representations in more detail in the next chapter.

the cause or vice versa, although their interaction would properly be cognized through the category of cause, because the cause still produces the effect, rather than through the category of community, where the causal interaction is reciprocal (cf. A202/B247-A203/B248). For example, take a ball making an indentation in a pillow. Here the ball's impacting the pillow is simultaneous with the creation of the indentation. Nonetheless, the ball is the cause. What is critical according to Kant is the counterfactual connection between cause and effect. If the ball is laid on the pillow, the dent follows. But if I find the dent, it does not follow that the ball was there. In this way, it is these connections between possible states of the appearances that is at issue when subsuming an intuition under either cause or community, and representing the order of the perceptions as objectively determined.

2.4.2 An empirical version of causality?

Now, part of Kant's claim about the categories of relation is that rather than arriving at these concepts through experience, they are what make experience possible. For, it is through these concepts that we can represent the order of perceptions as determined in the objects and it is the representation of this determination that is constitutive of experience of objects. Kant admits that "this contradicts everything that has always been said about the course of the use of our understanding" in forming the concept of cause (*KrV*, A195/B240). For according to what is standardly said, "it is only through the perception and comparison of sequences of many occurrences on preceding appearances that we are led to discover a rule, in accordance with which certain occurrences always follow certain appearances, and thereby are first prompted to form the concept of cause" (*KrV*, A195/B240-B241). That is, on the usual view, cause is an empirical concept, formed through the comparison of repeated experiences and abstraction away from the differences between these. But on Kant's view we cannot simply arrive at the concept of a causal connection from repeated experience of it, because this concept must already be at work for there to be experience in the first place.

Kant sees, however, that his view will face an objection: surely we don't have a concept of cause or even necessity when, as a child, we first experience objects in nature. Such a concept is fairly abstract, it is even a topic for metaphysics, and experience is something that

everyone, not just philosophers, has all the time. Kant replies here that although we may not have a logically clear representation of cause, or of the rule governing the connection of our perceptions in experience, we must be representing this at least obscurely for experience to be possible at all. For, the representation of cause is this general capacity to represent the order in our perceptions as determined—as made necessarily successive or or possibly reversible—by the object. In this way, because experience is constituted by such determinately connected perceptions, and we form the logically clear representation of cause on the basis of experience, this logically clear representation “is only possible if we have made use of it in experience” (*KrV*, A196/B241).

2.4.3 Causality does not ground experience analytically

As with the case of reality, we will be able to analyze causality out of the concept of any determinate successive connection of perceptions in experience, since it is causality that first makes such a determinate succession possible.²² Because causality can be analyzed out of experience, it is understandable one might think it could receive an analytic justification. Indeed, many philosophers prior to Kant thought just this. That Kant recognized this comes out in a passage at the end of the analogies (*KrV*, A217/B264). In this same passage, as well as in other places, Kant implies that he takes the principle of the second analogy to be the principle of sufficient reason (cf. *KrV*, A200-201/B246).²³ But the second analogy, which is the principle of how the category of cause grounds the representations of causal connections in experience is synthetic *a priori*, not analytic. And as in the case of reality, the analytic relation between the category and the representations grounded in it is merely symptomatic of this synthetic relation on Kant’s account.

²²It should be noted, however, that experience only first comes about through a judgment of experience, and causality will not be able to be analyzed out of experience before it is ‘put into’ experience through such a constitutive judgment. Along with this, I do not think that there is a pre-experiential synthesis among perceptions in (the productive) imagination that will serve as the basis for arriving at the category through analysis, as it seems Longuenesse does (Longuenesse, 1998, cf. p. 121, 194-196, & 251-253).

²³In this same passage at the end of the Analogies of Experience Kant remarks that “no one ever even thought of the other two analogies, though one always tacitly employed them” and compares these to the principle of sufficient reason (*KrV*, A217/B265). In a footnote to this passage he then remarks that the unity of the world-whole depends on the principle of simultaneity just as much. Accordingly, I take the other two analogies to be principles that ground the representation of the relations that stand under them—i.e. between a substance and its accidents or between two interacting substances—like the principle of sufficient reason.

How exactly is this synthetic *a priori* grounding supposed to work? Well, like in the case of reality, Kant thinks there is a form that all alterations—all changes of the state of a thing into another state—will share. And not only can this form be anticipated *a priori*, but the category of cause allows us to construct a continuous space of states of the altered substance that describes this form in a mathematically precise way. This in turn allows the assignment of a magnitude to the causal power of the cause in the production of the alteration at any given instant of time that occurs during the change (cf. *KrV*, A207/B253-A209/B255). Accordingly, like with the case of reality (and on the basis of it), for any empirically given alteration, there is an *a priori* form that can be anticipated, the representation of which is presupposed at least obscurely in the representation of any alteration in nature.

For what distinguishes the way reality and causality work, however, we need to look at a different feature of how causality grounds the representation of causal relations in experience. We can distinguish two moments in how the representation of causality grounds the representation of objects of experience. At the first, it is involved in representing merely that something is happening. At the second, it is involved in representing why this is happening. The difference between the two is that in the first, we merely represent that there is some causal rule governing the connection of our perceptions, while in the second we represent what that causal rule is. Although the progression of our knowledge is from the first to the second, it is because we suppose there is a rule to be discovered at the second moment that the first is possible.

It will help to look at an example. Suppose you encounter a stone that is gradually becoming warm. According to Kant, you represent that the stone becomes warm by representing the order of your, and of anyone else's, perceptions as determined. That is, you represent the order in the series of perceptions as irreversible—the stone could not have first felt warm and then cool. And this is because it got warmer, not cooler. At this point, however, you do not know the cause of the alteration in the stone.

Nonetheless, you represent that there is some cause of the alteration. And according to Kant this is representing that there is some rule in accordance with which the alteration came about. Such rules dictate that “there must therefore lie in that which in general precedes an occurrence the condition for a rule, in accordance with which this occurrence always and

necessarily follows” (*KrV*, A193/B238). This condition is the cause of the occurrence, the cause of the stone’s becoming warm. And according to the rule, whenever this condition, this cause, is posited the occurrence (the determinate succession in one’s perceptions of the stone becoming warm) necessarily takes place.

At the second moment in the use of the category of cause, one knows the rule governing the occurrence and so knows the cause of it. So, for example, here you would know that the stone was being warmed, say, by the sun. Now, in addition to representing the stone’s becoming warm, you represent that if one perceives the sun shining on the stone, then soon one will perceive the stone’s becoming warm. You represent this as the rule governing the order of possible perceptions for knowers like yourself. In this way, now you have discovered that the perception which is the state that conditions the perception of the stone’s becoming warm in this case is the perception of the sun’s shining on it. That is, even if you had not noticed the sun’s shining, you could have, since the warmth in the stone necessarily followed upon the sun’s shining on it.

In the second analogy, it can seem Kant’s focus is on the first of these two moments, especially in the A edition formulation of the principle: “Everything that happens (begins to be) presupposes something which it follows in accordance with a rule” (*KrV*, A189). One might explain this focus by appealing to the fact that it is at this point that we relate our perceptions to an object, which thereby makes representation of an object possible. For, it is at this point that we represent our perceptions as connected together in a determinate order, where what this means is that we represent that there is a universal rule, which is valid for everyone always, governing this connection. And it is this order in our representations that is indicative of their relation to an object (*KrV*, A197/B242). While I think there is something to this thought, it will need to be qualified.

Returning to the contrast with the categories of quality, we can now get a preliminary sense of the way in which the synthetic *a priori* grounding of this case differs from that one. What we saw was that although there is always some empirical component in any given sensation, it is through the categories of quality that we take sensation, or the real which corresponds to it, to be an intensive magnitude. For, to conceive of something as an intensive magnitude, a scale to measure its intensity needs to be constructible, and when

constructible through the category of reality, this scale doubles as a possibility space for intensive magnitudes of the same kind. In this way, what the category contributes through the construction of this space is a representation of the full continuum of possible such magnitudes, which allows for the representation of the possible and necessary features of these representations.

Although the categories of relation—causality in particular—also ground possible experience through determining which representations are possible or impossible, unlike reality these cannot be represented through constructing a space. This is because rather than determining which perceptions are possible, with their extensive and intensive magnitudes, they determine which connections between perceptions are possible. As Kant will put it, they are not constitutive of perceptions but regulate the connections between them. In this way, although we can construct the kind of alteration space Kant describes towards the end of the second analogy and thereby mathematically construct the magnitude of the causality of the cause at each moment, in doing so we take as given the connections among perceptions. It is, however, these determinate connections in the flow of perceptions—as necessitating one another or not—that Kant does not think are susceptible to mathematical treatment. Specifically, we can only describe the hypothetical and disjunctive rules governing connections between perceptions discursively. That is, we can only say: given such-and-such perception, we must be able to have a perception of so-and-so. Or given that I first perceived such-and-such and then perceived so-and-so, I could have equally perceived so-and-so before such-and-such.²⁴ These possible and necessary connections between perceptions ground the representation of an objective temporal order and allow us to distinguish this from the constant subjective flow of perceptions in inner sense. Accordingly, although we can perhaps represent each of these temporal streams with a line, we cannot represent the distinction between them this way. So unlike with reality, according to Kant we cannot capture the relevant possibilities and impossibilities—those governing the objective sequence in relation to the subjective—through a mathematical representation.

It might be objected to this, however, that we have already seen Kant thinks we can

²⁴At least given the mathematical resources at Kant's disposal. I do not mean to be pronouncing on what is possible with the resources of contemporary mathematical logic.

assign an intensive magnitude to the causality (or efficacy) of the cause by representing the change in the states of the substance acted upon, and this seems to be the kind of mathematically precise representation of the determinate order of perceptions just denied. After all, what this representation concerns is not so much the representation of a constant change in the effected substance, but the variation in the ways this substance is effected. For example, it concerns not merely the velocity of an object but its acceleration. And this representation is not merely a matter of individual perceptions, but of the connections between these.

While there is something to this objection, the reason I think it misses the mark is that although we are here bringing mathematics to bear on the representation of the intensive magnitude of the efficacy of the cause, the necessity connecting the various perceptions of the alteration is not intuitive but discursive. That is, what the procedure allows is the representation of the intensive magnitude of the causality at each moment of the change. And with this, at each moment, we can anticipate the change that will be brought about in the intensive magnitude of the real quality in the effect, which in turn allows us to anticipate the perception that will come. What links these perceptions here, however, is not their being situated say extensively, as bigger or smaller, or intensively, as exhibiting different degrees of intensity, which would be a link determined by their intuitive properties. Rather, their link is a matter of the way that they are connected to the existing object. Although this is no less necessary than the first, it is a matter of hypothetical (or disjunctive) connections, according to which if one perception is given then the other follows. And even if there is a sense in which we can represent these connections in a mathematically precise way, that does not make them any more intuitive.

2.4.4 Causality grounds specific causal laws

I think we can clarify this preliminary characterization of the way the categories of relation (and causality in particular) ground experience by examining a question that has been debated in the literature. This question is whether the category of cause only grounds causal connections in general, while specific ones are merely empirical, or whether it grounds spe-

cific causal laws as well. That is, whether what is in question is only the universal claim that every occurrence has a cause, or whether Kant thinks we can also know *a priori* that specific occurrences of type *A* are always followed by specific occurrences of type *B*.

Commentators by and large have taken Kant to be maintaining the weaker view on which cause only grounds the general claim that for every effect there is a cause.²⁵ More recently, Guyer, Friedman, Watkins, and Longuenesse, have defended versions of the second stronger position on which causality also grounds special causal laws.²⁶ I agree that the second kind of interpretation is correct, and will be arguing for my own version of it.²⁷

To begin, let me say a word about two ways in which we can represent the ‘strictly universal’ or ‘necessary’ causal connections so as to nip a potential confusion in the bud. In experiencing causal connections like the sun’s warming the stone we will usually only have common knowledge (*Erkenntnis*), not scientific knowledge (*Wissen*). For the latter, we must be able to deduce the law of causal connection in question apodictically and see how it fits into a system of knowledge. We do this, paradigmatically for Kant, in the metaphysics of extended matter, say with the laws of motion. In doing so we represent the causal law with intensive distinctness, whereas before we merely had a clear consciousness of it.²⁸ In this

²⁵For a long list of interpreters who defend this view, see (Friedman, 1992, fn. 7).

²⁶See (Guyer, 1987, p. 252), (Friedman, 1992), (Watkins, 2005, ch. 4, esp. 286-290). Longuenesse does not explicitly situate herself in this debate in *Kant and the Capacity to Judge*, although she comes close at p. 368-370. In “Kant on causality: what was he trying to prove?”, however, she takes up this issue directly (Longuenesse, 2005, reprinted, p. 143-184). Finally, Strawson also interprets Kant in the stronger way, but maintains he thereby commits (the famous) ‘non-sequitur of numbing grossness’ (Strawson, 1995, p. 133-146).

²⁷Sketching out the points of difference between my view and that of others in the briefest of ways: First, I don’t see reason to think that Kant held experience of causal connections depends on cognizing the laws governing them scientifically, as Friedman seems to. Next, Watkins’s claim that Kant’s critical conception of substances is very much in line with his pre-critical way of thinking about them seems to make pressing the question of why we should think the natures of substances and their causal powers are immutable, when I suspect on Kant’s critical view this question will receive a relatively straightforward answer because substance is the real that always persists. Guyer seems to be thinking that the process by which we come to experience causal connections involves a kind of inductive formation of an empirical concept of the causal connection, which I take Kant to be denying. Longuenesse clearly endorses something like this in *Kant and the Capacity to Judge* (Longuenesse, 1998, p. 179, 191, 370n). Whether she still endorses an empirical regularity account in “Kant on Causality: what was he trying to prove” seems a little less clear; nonetheless, she seems to (Longuenesse, 2005, p. 175n). On my account cognition [*Erkenntnis*] of specific causal connections is not grounded in induction from repeated experience, but experience of these connections is first made possible by their cognition.

²⁸On the topic of clarity and distinctness Kant maintains that, “If I am conscious of the representation, it is *clear*, if I am not conscious of it, *obscure*” (*JL*, 9:33). We have a *clear* concept when we know how to apply it, that is, when we can recognize instances of it. We have a *distinct* concept when the marks (or content) contained *in* the concept are themselves clear (*JL*, 9:62). We represent something with intensive distinctness or *profundity* when we understand how to trace its marks or content up to their sources in the

way, the ‘strict universality’ or ‘necessity’ of the rule is there already in common experience insofar as we represent the rule as holding for everyone always and of the object, but with some rules, like the laws of motion, we can come to recognize this universality follows with apodictic certainty within the system of our knowledge.

Kant at times describes this as coming to recognize that the rule is a law. For, “the representation of a universal condition in accordance with which a certain manifold (of whatever kind) **can** be posited is called a **rule**, and if it **must** be so posited, a **law**” (*KrV*, A113). Now, the first kind of representation of a universal connection, a mere rule, is what is under discussion in the Second Analogy, for here Kant is concerned with causal antecedents that merely can be posited, like the sun’s shining on the stone. Accordingly, what Kant has in view there is merely the constitution of experience of causal connections. Important as it is, the process of coming to recognize such rules with intensive distinctness in a scientific system is not his topic. For, in the metaphysics of extended matter, he is describing how matter must actually be, and so representing the antecedents as posited. So when grappling with what he means when he speaks of the representation of a necessary connection between perceptions in the Second Analogy, we should not take his topic to be the distinct representation of the necessity of laws as apodictically certain. The constitution of experience is a less sophisticated affair and does not require profound knowledge of the fundamental laws of nature.²⁹ Rather, when we commonly represent causal connections like that the sun warms the stone, we merely represent the sun’s shining on the stone as a universal condition that, if posited, entails there is a possible perception (for anyone) of the stone’s becoming warm.³⁰

first principles of our knowledge, and we come into possession of this kind of knowledge of the principles of motion in the metaphysics of extended matter, when we recognize how the latter principles depend on the principles of transcendental metaphysics.

²⁹At points Friedman sounds as though he is thinking of experience as requiring this (Friedman, 1992, cf. §IV). If that were right, then it is hard to see how the process of learning through experience could ever get going, because almost no one has experience in the first place.

³⁰Against this reading of the distinction between rules and laws one might cite the passage at the end of the A deduction where Kant says, “Rules, so far as they are objective (and thus necessarily pertain to the cognition of objects) are called laws” (*KrV*, A126). In Kant’s own copy, however, he has changed it to “Rules, so far as they [represent] existence as necessary. . .”. It is exactly the representation of existence as necessary that I have claimed is distinctive of laws, and I believe this emendation reflects Kant’s considered view. Nonetheless, I do not mean to claim that Kant always adheres to this distinction in his usage, although in many of the places that would seem to count against it, I think the texts can be read as not conflicting. For example, at *Prol*, 4:312, where he says “The above empirical rule is now viewed more as a law [*wird nunmehr*

Now, returning to the weaker and stronger interpretations of the causal principle, the weaker has seemed to many preferable to the stronger because the stronger has seemed both unnecessary for objective temporal determination and implausible. On the weaker, remember, Kant is merely establishing that every effect has a cause, while on the stronger he also aims to establish that specific kinds of events like the sun's shining on the stone must cause other events like the stone's becoming warm. We can see why the stronger interpretation has seemed unnecessary if we return to the distinction between the two moments in our use of the concept of cause. In the first moment we recognized that something was happening, the stone was becoming warm, and to do this we presupposed that there was a causal rule in accordance with which this occurrence came about. At this point we don't actually need to know what that rule was—that was the second moment—just that there is some such rule. But if this is all that is required, then it seems we only need to know that the general principle, 'every effect has a cause,' obtains in this case to see that the stone is becoming warm. And this perception of an occurrence is all that was needed for experience of objects in time.

Furthermore, going this way can seem to have the benefit of not committing Kant to too much. We can know that there is some causal rule governing the stone's becoming warm. But the evidence we have for which rule it is that is governing this occurrence will always be limited to the regular successions of perceptions of potential causes and effects that we or others have repeatedly perceived. That is, we will only ever have merely inductive evidence for this or that specific causal rule. Since Kant denies that strictly universal rules can be arrived at inductively, however, by stopping short of affirming that we can know specific causal rules, it seems we save Kant from either going back on this commitment or from his

als Gesetz angesehen],” I think it is important that it is now viewed more as a law, rather than as a law. One place where Kant does not seem to be distinguishing sharply between the two is (*KrV*, A216/B263).

Still, this is a delicate issue on my interpretation. What I will be arguing in the next chapter is that when we cognize the form of possible experience, through the actual material given in experience, we represent what is necessarily the case in nature. This representation of necessity in experience, however, is only what is required for *Erkenntnis*, not the more metaphysically and systematically robust representation of necessity required for *Wissen*. But because cognition of necessity in this weaker sense is found in experience, it is easy to fall into speaking about the laws governing this experience. When one considers that it is the categories which contribute this representation of necessity to experience, this tendency becomes even harder to resist. For this reason I do not find it surprising that Kant speaks of laws in the *Prolegomena*, for example, even though he does not have strictly scientific knowledge in view there.

account of our knowledge of causal connections overreaching the evidence.

Despite these apparently appealing features, I do not think this is Kant's view. Although the weaker reading might be sufficient for experience of the stone's becoming warm, it is not sufficient for experience of the sun's *warming* the stone. For, while we have an experience of something happening at the first moment, we do not yet have an experience of a causal connection. We only have this at the second moment. And since Kant maintains we do have experience of causal connections, like of the sun's warming the stone or of the transfer of momentum between colliding bodies, the weak interpretation will not do. That is, just as the concept of cause must precede and ground the experience of an occurrence for it to be possible, the concept of cause must also ground and precede experience of a causal connection. With the latter, just as the former, we cannot arrive at a representation of the causal connection through induction or abstraction from repeated experiences of this connection. This is because we can only have an experience of this connection if we are already representing it as the causal connection it is. That is, we can only have experience of, say, the sun's warming the stone if we are already representing the sun's being "through its light, the cause of heat" (*Prol.*, 4:312). In this way using experience of the sun's warming to inductively arrive at the representation of the causal connection is impossible, because to experience the sun's warming we have to already be representing it as the cause of the heat.

Still, one might object, there is something inductive about recognizing the sun warms the stone. After all, a child may perceive the stone becoming warm, and perceive the sun's shining, but not put the two together. Over time, she may make a causal hypothesis, wait, see that it is confirmed a few more times, and then affirm: the sun warms the stone! Kant's point is that prior to this affirmation she did not experience the sun warming the stone. She just experienced a mere regularity in her perceptions. When she makes the judgment, her justification is not inductive. If it were, she would only judge, 'for all we've seen, the sun's shining on the stone is accompanied by the stone's becoming warm.' And when she makes the judgment, she begins to experience the sun's warming the stone.

2.4.5 An empiricist objection

So does Kant's argument prove too much? After all, one might point out in a kind of Humean spirit, really the child doesn't seem to be justified in her judgment that the sun warms the stone. If we accept Kant's account as developed so far, aren't the kinds of judgments underlying experience reflections of an ill-founded cognitive illusion that tempts us into finding specific necessary connections where there are none or, at least, where we could never be justified in finding any? After all, assertion of specific empirical causal rules always goes beyond all the evidence that could possibly be given.

The first thing it is important to remember is that the consciousness of strict universality we have in experience does not carry the more strenuous justificatory requirements of scientific knowledge of causal laws. This empirical knowledge (*Erkenntnis*) is fallible, and does not purport to be otherwise. The knowledge we have in experience of specific causal rules is grounded in the category, and its principle 'everything that happens has a cause.' In experience of causal events we represent that this thing which happens has the cause it does: the stone is warmed because of the sun's shining. We do not need to know how this special causal connection flows from the first principles of nature to represent that there is a necessary connection between the sun's shining and the stone's being warmed. That is, to have experience of a causal connection we don't need to see how the necessity of its rule follows apodictically, although in some cases Kant thinks we can eventually see this, like with the law of universal gravitation. In this way, the justificatory issue should be kept separate from the bare representation or consciousness of necessary connection among perceptions in experience.

Still our objector might press, now from a more Kantian direction, what the second analogy establishes is at best only that the general causal principle obtains and makes experience of an objective time determination possible, not that we must represent any special causal connection for this objective time determination. For, all that is required to represent an objective temporal sequence is that we represent things as happening, we represent the order of our perceptions of the state of a substance as determined, not that we represent the causes of that happening, or the rule governing that change. Thus, for experience to be possible,

we need not have experience of causal connections themselves, but only the effects. And so for the main task of making objective time representable, experience of special causal connections is otiose and needlessly opens oneself up to going wrong. In this way, Kant should have sided with Hume in thinking that when we represent special causal rules before they have been justified as laws, we are falling prey to a kind of cognitive illusion.³¹

Although I think Kant thinks we can have experience that occurrences take place, and thus represent objective time, without cognizing specific causes, we can't explain *why* things happen without these. To give these explanations, we need to appeal to the causal powers and actions of substances, for "actions are always the primary ground of all change of appearances" (*KrV*, A205/B250). But to be able to appeal to the action of a specific substance on another to produce a change in it, we need experience of the causal activity, which as we've seen requires representing in experience the rule governing them. In this way, since Kant takes us to be able to give genuine explanations of why things happen, he thinks that our experience of causal connections and our representation of specific causal rules is not the result of a cognitive illusion.

2.4.6 The empirical and *a priori* contributions

There is a further element to Kant's reply here. For, in claiming that the category of cause and the principle that everything which happens has a cause are *a priori*, Kant has resources that he can rely upon in grounding the representation of the necessity in genuine specific causal connections that Hume lacks. To see how exactly Kant takes this to be working, we need to examine the relative empirical and *a priori* contributions in experience.

³¹I suspect there is a deeply Kantian reason for not maintaining the representation of special causal laws is required for representing objective time and grounding possible experience. If I had to have knowledge of a specific causal law for objective time determination, then I would need to have knowledge of the cause of some occurrence. For us such knowledge of empirical causation is partially grounded in experience. But if experience of this causal connection is partially grounded in experience, and experience of this cause requires some knowledge of the special causal laws governing how it came about, then it seems we need to have that knowledge as well. Thus, if knowledge of the cause is required for experience to be possible, then it seems one would also need knowledge of the cause of that cause. And now we are on a impossible regress of knowledge of special causes of the kind Kant denies in the Antinomies. Of course, one could try to block this regress by claiming that there is an important distinction to be drawn between the knowledge of the cause bringing about the occurrence supposedly required for experience, and the knowledge of the cause of that cause. Nonetheless, I don't think Kant goes this way.

In a footnote in the *Prolegomena*, Kant remarks on these:

But how does this proposition: that judgments of experience are supposed to contain necessity in the synthesis of perceptions, square with my proposition, urged many times above: that experience, as *a posteriori* cognition, can provide merely contingent judgments? If I say: Experience teaches me something, every time I mean only the perception that is in it—e.g., that upon illumination of the stone by the sun, warmth follows every time [*jederzeit*]*—and hence the proposition from experience is, so far, always [allemal] contingent. That this warming follows necessarily from illumination by the sun is indeed contained in the judgment of experience (in virtue of the concept of cause), but I do not learn it from experience; rather, conversely, experience is first generated through this addition of a concept of the understanding (of cause) to the perception. (Prol., 4:305n)*

What is in view in this passage is the eventual experience of a causal connection—the sun’s warming the stone. In any experience there will be an empirical component that provides the sensory material to be connected together. Here this component is contributed through perception—through my perceiving the becoming warm of the stone and the sun’s shining. Still, the perception of the stone’s becoming warm is an experience of an occurrence in its own right, although not yet of the cause of this occurrence. For that experience, the material is first the perception of no warmth, then later warmth, without yet relating this to a change in the state of the stone. In this way, at bottom the empirical component will be a change in my subjective sensory states—a change in, say, the intensity of the sensation of warmth I feel.

On the other side, the categories of relation provide the form of possible experience that connects this material together. That is, they provide rules governing the connections among these perceptions that make experience, either of mere occurrences or of causation, possible. Experience is knowledge of something objective, something happening in nature that is available for all knowers to know. This means that any similarly situated knower should be in a position to experience this same thing. Accordingly, these rules governing the connections among perceptions dictate for everyone which perceptions can and cannot follow which other perceptions.

How, we might wonder, can the categories themselves, as *a priori* concepts, ground rules for connecting empirical perceptions together? It seems that this grounding cannot be analytic. After all, the categories cannot contain within themselves rules like ‘the sun

shining on the stone, through its light, will cause the stone to be warm.’ For, without experience of the sun, the stone, the light, and the warmth, representation of such a rule would be impossible. Thus, the categories do not ground possible experience by containing within themselves all of the possible rules governing the connections among perceptions—all of the possible special causal laws—and then the empirical component just tells us which of these are actual. So, at least for Kant, the categories of relation, as pure concepts, do not analytically ground their special laws.

Rather, the interplay between form and matter in experience must be more subtle. The schematized categories of relation provide rules for relating perceptions to substances and their interactions. Through this the representation of an objective temporal order becomes possible. Each analogy, then, articulates one of the three most general principles governing substances in nature, where these substances themselves are mere sums of universally available connected representations. One way to think about the analogies is as articulating the three essential features of any substance situated in time and space with other such substances. These indicate their essential properties because they are the laws that govern how the representations in the subjective flow of inner sense must be represented as connected for these to be representations of such substances. And since these are nothing but sums of connected representations, appearances, what is essential to their representation can be nothing other than what is essential to themselves.

Setting aside for now the nature of these substances, and focusing just on how the categories of relation make possible their representation, they ground respectively the representation of (i) these objects with their accidents, (ii) their successive causal interactions, and (iii) their simultaneous existence and interaction as each positioned in space at the same time. They do this by providing a general rule for how perceptions must be connected in experience for the representation of each of these aspects of the object of experience. For example, in order to represent the changes brought about in the states of an object, we rely on the principle that every such change has a cause—i.e. that there is something that has brought about the change in accordance with some rule. This principle just tells us that for every such change there is some cause, some substance whose action at a prior time made the change happen. It does not tell us anything about what happened in the effected substance,

nor what brought about this change. Rather, this information must be discovered empirically in perception. Nonetheless, by recognizing that these perceptions are of occurrences in nature, we recognize them as subject to the general law governing such occurrences. In this way, although the category of cause will ground the form of experiencing any such occurrences (or causes of those) in that it grounds the general relation of what happens at one time to a prior time, it does not contain any representation of what actually occurs, or even of what might occur. This is provided by the perceptions.

Accordingly, the categories of relation ground the connections between perceptions in experience, not insofar as they provide these perceptions, but insofar as they make their relation to objects of experience possible. They do this not by containing within themselves all of the possible ways nature could turn out to be—all of the potential orders of appearances—but by grounding the representation of which perceptions are or are not possible, given the ones we have. That is, they determine the order in possible perceptions synthetically: they provide general laws which will govern whatever perceptions there are, insofar as these are connected together in experience. In this way, these general laws of the objective succession of perceptions ground experience by making the representation of these determinate connections among perceptions possible, where what the ‘determinateness’ here amounts to is the representation that the perceptions of all knowers, always, will be governed by these same special rules. These are then not analyzable out of the categories alone, nor the perceptual material for experience, but are a synthetic *a priori* determination of the latter by the former, where this is a matter of the category grounding which perceptions are or are not possible through the general laws of objective temporal unity.

2.4.7 Revisiting the objection

Returning then to the objection that we could never be justified in experiencing a causal connection because our evidence always falls short and thus experience of these connections is an illusion, Kant would reply that for the kind of knowledge we have in experience to be possible, this must be wrong. This is because in experience we represent the order in our perceptions as governed by a rule that holds for everyone always, even if we are not in a po-

sition to justify this rule from first principles. We are licensed in this, not by the perceptions we have had, but by the laws of relation between perceptions in general grounding possible experience. For, in having experience we represent—albeit perhaps not in a logically clear way—that these laws, articulated in the principles of the analogies, govern the objective order of our perception. And it is through the representation of universal connections between perceptions that we represent the objective order and objects of experience at all. So either objectivity is an illusion, or these general laws are justified, and Kant’s account is an attempt to spell out how the latter is possible. Vindicating these laws, however, will take spelling out how they are not just forms of our possible representations of objects, but forms of the objects themselves, which will depend on bringing the considerations I’ve raised in the first chapter together with the ones just given. This is the task I will turn to shortly.

Still, there is a wrinkle. At the point we left the objection, the problem was not with the representation of occurrences, but of the causes of those occurrences. For all I’ve said, it seems we could have the representation of alterations in things, and thus an objective temporal order, without representing why these changes happen, and so without the experience of causal connections. And what the objector wanted was a reason why we should think experience of specific causal connections was warranted.

There is a textual issue that is connected to this shift in focus from the rule governing the occurrence to the rule governing the causation. Kant seems to begin his discussion in the second analogy talking about the rule governing the succession of perceptions in the effect, in representing that something happens. But then he seems to shift into discussing the rule governing the connection between cause and effect. That is, he shifts from discussing the rule governing the change from *A* to *B* in the perceptions of the effected object, to discussing the rule governing how there is a possible perception of the cause *C*, which the change from *A* to *B* presupposes. His thought seems to be that in representing that which happens—the change from *A* to *B*—we must represent that there is something which precedes—the cause *C*—from which that which happens necessarily follows in accordance with a rule. In this way, there seem to be two different rules in question—one governing the order of perceptions of the effect, the other governing the connection between the perceptions of the cause and the effect—but Kant does not seem to be clearly marking the distinction.

The key to seeing how representing an occurrence depends on the category of cause lies in seeing how these two rules are intimately related, and even come down to the same thing. For, put objectively, when we represent that the stone becomes warm in accordance with a rule, the rule in question will be the one governing how the cause brings this warmth about, even if we don't know what this rule is. Put in terms of the order of our representations, this point is a little more complex. The stone, as an appearance, is what we represent as persisting through the change in the warmth. In representing the stone's becoming warm we represent that the order of our, and everyone else's, perceptions of the stone is determined—first we will perceive the cool, then the warm. In representing this change as not merely one in our subjective states, but in the states of all knowers, we represent that there is a rule that will govern all of these transitions. But this rule that will govern the order of perceptions in everyone always does not merely declare that all knowers will first perceive the cool, then the warm. If that were all it did, then the rule would not connect this happening to anything prior to it in the temporal order, or to any object outside the one in which the alteration took place. This would leave our representation of objective time disjointed and our experience episodic. Accordingly, for our experience of nature to have the unity that it seems to have, the rule in question governing the change in the effected substance must also govern how this universal transition comes about. It must be what explains the transition. And to do that it must indicate that there is some cause bringing the universal connection in perceptions about. Put in terms of the order in our representations, this means the rule indicates that there is a possible perception of the cause, whenever there is the occurrence (the connected perceptions) of the effect, whatever this cause might turn out to be.

In this way, representing that the order in our perceptions of something that has happened is determinate for everyone always in one objective temporal sequence points back to some possible perception of the cause that brought this occurrence about. For, we represent that the occurrence happened in accordance with a rule, and this rule does not merely declare the order in perceptions, but points to what explains that order. And this is what happened a moment before with the cause. Accordingly, the “rule for determining something with respect to its temporal sequence, however, is that in what precedes, the condition is to be encountered under which the occurrence always (i.e. necessarily) follows” (*KrV*, B246/A200). Where, of

course, the condition is the cause, and the occurrence the effect. When we represent the causal connection in experience all we are doing is representing the perceptions we are having as connected together according to this rule. Our experience of causation is fallible, but when we have it we are merely judging that these are the connected perceptions which the unity of our experience dictates there must be. Thus, Kant maintains that for a representation of the objective temporal order that is unified in the way that he takes ours to be, the rule we represent as governing the occurrence cannot be just that, but must point to the cause that brought this about. In an experience of a causal connection we represent the perceptions we have as connected, with strict universality, according to this rule. And the representation of this strictly universal law, in turn, will be grounded in the category of cause, through the general principle of the Second Analogy.

Still, through the second analogy we do not get knowledge of this or that specific causal connection, only that this knowledge must be possible. For such knowledge we need sensation and to recognize how the connections among these specific perceptions result from the causal connections in the objects. How exactly this works will be a central topic of the next chapter. And so although the second analogy justifies the claim that cognition of specific causal connections are possible, it is only there that we will see how this cognition takes place in experience.

2.5 CONCLUSION: ALL KNOWLEDGE OF SPECIAL FEATURES IS GROUNDED IN KNOWLEDGE OF FORMAL FEATURES

At the end of §1 I said that I would conclude by arguing that on a formal idealist account like Kant's, all of the knowledge of special features we can have will be grounded in our knowledge of the formal features of our faculties for knowledge. So far, what I have set out to explicate is how Kant thinks *a priori* formal representations like space, time, and the categories ground corresponding specific representations of relations between, and features of, objects.

In the case of space, what we saw was that we could not arrive at the representation

of space through experiencing spatial objects and abstracting away from these, since the continuity of space goes beyond anything that we can experience. Nonetheless, this representation of space was intuitive because in representing things in space we do not already represent even obscurely the features of space, but must discover these through geometry.

In the case of reality, we saw that although there is always some empirical component in any given sensation and we might be able to have specific sensations without relying on the category of reality, it is through the category of reality that we take sensation, or the real which corresponds to it, to be an intensive magnitude. For, to conceive of something as an intensive magnitude, a scale to measure its intensity needs to be constructible, and when constructible through the category of reality, this scale doubles as a possibility space for intensive magnitudes of the same kind.

Finally, with causality we saw that although perception was necessary for the representation of any occurrence or causal connection, and thus experience, the form of possible experience was contributed by the category. Since this form was not a constitutive element of perceptions or intuitions, like in the case of reality, it was not representable intuitively through a line. Rather, since it concerned the connection among perceptions in inner sense, and which perceptions could follow which, the way in which this category grounded these possibilities and impossibilities was discursive.

In all of these cases, then, what we have seen is that, albeit in different ways, the *a priori* formal representation in question grounds which representations are possible through it. This, in turn, allows the representation of both the possible and necessary features of the representations grounded in them.³² For example, the category of reality allows the representation of the full range of possible intensive magnitudes of any given kind through the corresponding space of possible qualities that it grounds. This, in turn, allows the representation of possible features of these representations, like that the magnitude represented could be more intense than another, or the representation of necessary features of these, like

³²When Kant speaks about possibility and necessity he is usually discussing objective properties not features of representations. (One exception, where he seems to have in mind possible representations, is the footnote at (*KrV*, B133/B134).) When I claim, however, that the possible and necessary features of representations are determined by the *a priori* representations that they are grounded in, I do not have this objective possibility and necessity in mind. As a result, here I am not concerned with the categories of necessity and possibility. Rather, I am only making a claim about the representations.

that for any representation of an intensive magnitude we can assign it's magnitude a degree and situate it in a continuum of possible such magnitudes.³³

Now, how could it be that all of the special features we can have knowledge of will be grounded in formal features of our faculties for knowledge? We might concede to the considerations just offered that both the characteristics that the specific representations can have, as well as the ones they must have, are determined by the *a priori* representation in which they are grounded. And if these turn out to ground the form of our possible objects of knowledge, then they will correspond to the possible and necessary features of the objects that we can have knowledge of. Nonetheless, it seems like we can have knowledge of merely empirical features of objects that do not depend on the formal features of our faculty for knowledge. This can be brought out through comparison with non-rational animals in all three of the cases we have looked at. For example, with the representation of special spatial features of objects, it seems there is some sense in which non-rational animals situate things in space, even if they do not seem to have an *a priori* original intuition of space that is united, singular, and infinite in the way ours is. Or again, it seems having sensations does not depend on the category of reality, or really any other *a priori* representation since, after all, non-rational animals sense. Finally, non-rational animals have a reproductive imagination through which they can become habituated to certain constant conjunctions of perceptions so that always and immediately upon having the one they will have the other, and thus they can come to expect the effect will follow the cause. In this way, it would seem that non-rational animals may be living examples of how empirical representations of special features not grounded in knowledge of formal features of one's faculties is possible. If we also had merely empirical, brute representations of these special features, then it seems there would

³³Or again, as we saw in the case of space, it grounds the representations of features of, and relations between, objects in space. The way that it does this, in part, is by determining what spatial representations are possible. This, in turn determines the possible and necessary features of spatial representations. For example, if I represent a pen as along side a pencil, then I must represent that pencil as along side that pen. This symmetry of 'along side of' results from the kind of spatial relation it is—from the way that representing two things as along side one another is representing them as situated in space in a certain way. Accordingly, one thing that I have in mind when I speak of the possible features of spatial representations is that these representations can or cannot be of objects that are represented as along side one another. And one thing that I have in mind when I speak of the necessary features of spatial representations is that if we do represent two things as along side one another, then we must represent both the first as along side the second and the second as along side the first.

be some relatively clear sense in which we could have something like knowledge of the special features of objects that does not depend on our formal *a priori* representations.

Although the way this objection is going wrong is perhaps most apparent with causality, I think Kant would find something similarly flawed in each of the three cases. For in all three there is not something that counts as genuine knowledge of the special features of objects: there is anticipation but no possibility for representation of a strictly universal rule, there is sensation but no possibility of recognizing this as an intensive magnitude, there is affection of outer sense but no positioning in space in our sense. This point can look merely verbal, hingeing on how we use the term ‘knowledge (*Erkenntnis*).’ I think if we reflect on the way that the *a priori* works, we can see that it is not, in part because the shift in context between the non-rational case and our own means that we do not have an analogue to their outer sense, sensation, or anticipation that is merely empirical in the same way.

We have the potential to situate objects in space, understand our sensations as intensive magnitudes, and represent objective causal connections, and this is made possible by our *a priori* representations of space, reality, and causality. In each case the closest our empirical representations can come to those of non-rational animals is if we have not yet actualized this potentiality. But because of this potentiality—because we can recognize these empirical representations as representations of objects through their relation to space, reality, or causality—they are potentially knowledge in us, but not in non-rational animals. This potentiality is a relation they have to our *a priori* formal representations, and this relation changes their nature. For, we can come to see how they represent objects that are universally available to be known and situated in a nature that is governed by laws that are equally universally available. Non-rational animals cannot. And so even if we use the term ‘knowledge’ to cover the merely empirical representations of non-rational animals, there is a real distinction between these and the corresponding empirical representations in us because those in us are still related to our *a priori* formal representations through the potential of recognizing their relation to objects in nature.

In this way, all of the special knowledge we can have, even if it is our analogue of the merely empirical representations of non-rational animals, is grounded in our formal *a priori* knowledge—space, time and the categories. For, it is only through their grounding in space,

time, and the categories that special spatial, temporal, or conceptual representations are related to other such possible special representations, either had by us or by other knowers. And it is only through the kind of consciousness of these possible representations exhibited in judgment that we represent an object as an object—as something that necessitates a certain order in the representations of it—which is characteristic of knowledge properly speaking. Kant will put this point by saying that it is through the representation of these relations between representations that we relate representations to objects. Now, Kant will allow those representations that merely could figure, but have not yet figured, in knowledge proper to count as knowledge (*Erkenntnis*) in an extended sense. The point here is that without the possibility of recognizing the grounding of these representations in their corresponding *a priori* formal representation, these representations are not potential knowledge of an object in the stricter sense at all. Accordingly, to merely have some representation as non-rational animals do, without the possibility of recognizing its grounding in its corresponding *a priori* formal representation, is not to have knowledge of an object in even this extended sense. And while I do not deny that Kant may speak of the *Erkenntnis* of non-rational animals, and so use the term in an even weaker sense than the extended one here, we need not quibble over the term. The philosophical point stands regardless.

3.0 THE CONSTITUTION OF OBJECTS

In the first and second chapters I have aspired to make a compelling case for why our knowledge of objects is as Kant and formal idealism claim. This case rests on an account of our knowledge of the necessary features of these objects (e.g. the special spatial relations or causal connections they stand in) on which all of our knowledge of the objects as objects depends. In this chapter, I will be turning to the constitution of the objects of our knowledge on Kant's account, and making an argument of sorts for why these objects are constituted as the formal idealist takes them to be. This will involve examining the Kantian conception of a substance in some detail, and then reflecting on the corresponding features of an object that any formal idealism will share.

Having seen in chapter one that the form of an object of our knowledge, which we can know the object to have *a priori*, must have its origin in our faculties, and having just seen that any empirical knowledge, as knowledge of an object, depends on this *a priori* knowledge, we are now in a position to see the way in which specific objects are grounded in our faculty for knowing them. As a rough first pass, the objects in question are objects of experience. Experience involves, according to Kant, both our being sensibly affected by the object and making judgments about it. So for experience to be possible we must be capable of both. The form of possible experience is determined *a priori* by these capabilities, prior to actual experience. The form of the objects of experience will correspond to this and be those features of the object that we take to be necessary or *a priori*. Although it is in experience that we will encounter this form, as we've seen, experience cannot justify our taking these features to be necessary. Rather, the only way in which we could know these objects have the necessary features that we take them to is if they both must have these to be the objects they are (which are objects that can be experienced—appearances) and we can know these

features to be necessary. But the only features that will be both necessary and knowable as necessary will be those features the objects have in virtue of the *a priori* form of possible experience, which is a matter of the rules governing the possible intuitions and judgments that figure in experience, and these in turn will have their origins in our faculties.

Now, in examining more closely how the constitution of these objects works, it will help to see how this account contrasts with two other conceptions of the objects of our knowledge. One way that I described these objects, these appearances, is as themselves sums of representations that we represent any knower as having in specific possible circumstances. Here I am following Kant when he says things like, “that which lies in the successive apprehension is considered as representation, but the appearance that is given to me, in spite of the fact that it is nothing more than a sum of these representations, is considered as their object, with which my concept, which I draw from the representations of apprehension, is to agree” (*KrV*, A191/B236). This kind of characterization might raise a worry: if these objects are merely sums of successively connected representations, how can they be substances? For, these ordered representations merely come forward in inner sense. This constantly flows. So what is the permanent substrata? As it stands, a collection of connected successively apprehended representations in inner sense sounds at best like a bundle of accidents of a substance, not the substance itself. If we take away the fact that these representations are successively apprehended, then we might include permanence among them. But why isn’t this an *ad hoc* solution? And why isn’t this ‘sum of representations’ like a Humean ersatz substance, a bundle of representations that we standardly find together, rather than a genuinely existing thing that is permanent across the changes in its accidents?

On the other side, if Kant is committed to an underlying permanent substantial substrata that gives rise to these representations, then what is the significant difference between the nature of this object, and the nature of, say, Descartes’s wax? Indeed, in what we will see to be a critical passage from the *Prolegomena* where Kant is explaining why objective validity and necessary universal validity for everyone always are “interchangeable concepts” he says,

[A]lthough we do not know the object in itself, nonetheless, if we regard a judgment as universally valid and hence necessary, objective validity is understood to be included. Through this judgment we cognize the object (even if it otherwise remains unknown as it may be in itself) by means of the universally valid and necessary connection of

the given perceptions; and since this is the case for all objects of the senses, judgments of experience will not derive their objective validity from the immediate cognition of the object (for this is impossible), but merely from the condition for the universal validity of empirical judgments, which, as has been said, never rests on empirical, or indeed sensory conditions at all, but on a pure concept of the understanding. The object always remains unknown in itself; if, however, through the concept of the understanding the connection of the representations which it provides to our sensibility is determined as universally valid, then the object is determined through this relation, and the judgment is objective. (*Prolegomena*, §19, 4:298-299)

Of course, this is a difficult passage, but it can sound like ultimately the object that we are making objectively valid judgments about is the object as it is in itself. For, although Kant is repeatedly insisting that the object cannot be known in itself, it seems this same object is ultimately what we are knowing, albeit not as it is in itself. If that were right, then why would the conception of the object in question be any different than the rationalist one according to which the substance is a substrata that we can unproblematically know through encountering its accidents and powers? Naturally, since Kant goes on to claim the object will always remain unknown in itself after he seems to imply that we can know the object in objective judgments, it would seem he wants to at least reject the rationalist's claim that we can know these objects in themselves, but why is he entitled to this? And is he just denying the possibility of this knowledge, while holding onto the same basic conception of the underlying unknowable object? Or is it that in affirming the possibility of objective knowledge he has a different kind of substance in view?

In examining the constitution of the objects of our knowledge on Kant's account I will be attempting to mark out why these are neither mere bundles of representations nor things in themselves. To do this, because I am partially concerned with presenting Kant's view in the most approachable and recognizable terms, I will neither come at the question by descending from the heights of the synthetic unity of apperception to alight on the form of an object in general as Kant does in the transcendental deduction of the First *Critique*, nor through a detailed look at his notion of a substance, which on its own would be too narrow and parochial. Instead, I will approach the issue as the *Prolegomena* does, through an analysis of experience, and delve into the way in which merely subjective judgments of perception are transformed into objective judgments of experience. The key to this is the

subsumption of the mediating intuition under a category. By examining this process through which knowledge arises, we will be able to better understand the role of each of the three kinds of synthetic *a priori* grounding of the last chapter in constituting the form of objects of experience. With this, we will then be able to see how, on Kant's account, there is necessity in experience, and how judgments of experience cognize the necessary features of objects of experience.

This last will involve seeing that the substance we experience is in the first instance matter,¹ and that in judgments of experience there are three moments. First we must cognize the agreement of appearances with the *a priori* principles of possible experience, which are the laws articulating the possible ways nature could be. Second, through sensation we cognize that nature exists. And third, through the combination of this form and matter, we cognize an accident of substance which was brought about necessarily by another accident that preceded it and which is reciprocally determined by all of the other accidents of substance that exist simultaneously with it. In this way, on my reading, although what sensation we have is contingent on our position in the world, in experiencing objects we represent their specific necessary features, and it is in virtue of representing these that experience counts as knowledge at all.

3.1 JUDGMENTS OF PERCEPTION

Judgments of perception are merely valid for me, while judgments of experience are valid of objects, and so for everyone always (*Prol*, §18, 4:298). In chapter two we already discussed Kant's distinction between these kinds of judgments without naming them—particularly in discussing causality. For, there we looked at Kant's example of how transforming the judgment of perception, 'if the sun shines on the stone, it becomes warm,' into the judgment

¹Of course, Kant will use the term 'substance' in another, relative sense, to refer to individual things that are considered to be the permanent substrata across this or that specific change. This is the sense of 'substances,' say, in the two formulations of the Third Analogy (*KrV*, A211/B256). These are importantly not mere accidents, because although relative to nature as a whole they may come to be and pass away, relative to this or that change taking place within them, they are permanent. Furthermore, it is these relative substances that are properly said to be in community (*commercium*) with one another at a given time, necessarily reciprocally determining one another as all together constituting nature at that time.

of experience, ‘the sun *warms* the stone,’ brought experience of the warming along with it. Here we will examine Kant’s account of this kind of transformation in more detail, but before this we need to look at how Kant conceives of the nature of each of these kinds of judgment.

Introducing judgments of perception, Kant says, “they express only a relation between two sensations to the same subject” (*Prol*, 4:299). There is no requirement that other subjects or even this subject at different times should still find it so. And while as judgments they accord with the merely logical forms of judgment governing any judgment, these judgments need not involve the categories because they do not refer to an object, but only a state of the subject. The first examples Kant gives of such judgments can only ever be subjective: “that the room is warm, the sugar is sweet, the wormwood repugnant” (*Prol*, 4:299). This is because they all involve feeling (*Prol*, 4:299n), which concerns only a state of my subject. In each of these cases the two sensations that are related to one another merely in the senses are the sensations of the room and the warmth,² of the sugar and the sweet, or of the wormwood and the repugnance.

Kant then goes on to offer the example, “the air is elastic” (*Prol*, 4:299). Like all empirical judgments, this starts off merely relating two sensations in my senses, presumably of the air and its elasticity, as a judgment of perception. For, all of our empirical judgments begin as judgments of perception, “they hold only for us, i.e., only for our subject, and only afterward do we give them a new relation, namely to an object” (*Prol*, 4:298). In the first examples, they cannot be given this new relation, but this new example can, and it will thereby become an objective judgment of experience.

Before turning to judgments of experience, there is a question about what Kant means when he says that we are relating two sensations in a judgment of perception that it will be useful to take up. At other points he speaks of sensation merely as the matter of intuition (*KrV*, A20/B34). It can be hard to see how intuitions, let alone merely their matter, can figure in judgments, since these are combinations of concepts. In the next section, however, Kant seems happy to refer to these sensations as perceptions (*Prol*, §20, 4:300), and given the way he treats the case of ‘the air is elastic’ there, he seems to be thinking that the sensation

²As Longuenesse points out, in the Second Analogy Kant also uses the warmth in a room caused by a stove as an example of a causal judgment (Longuenesse, 1998, p.192n). This suggests that warmth is not merely a pleasant feeling in my subject, but also a cognizable feature of the room or, of course, the stone.

of the air is also what we recognize as the mediating intuition in the eventual judgment of experience. Still, judgments connect concepts together and in what sense can there be a judgment merely connecting two perceptions or intuitions?³ Intuitions have at most a role to play in mediating the connection between the concepts.

To resolve the issue one might try pointing to the *Stufenleiter* passage, where Kant indicates sensations are perceptions (*perceptio*) that refer merely “to the subject as a modification of its state” (*KrV*, A320/B376), which fits with his description of the intuition in the judgment of experience as that “intuition of which I am conscious, i.e., perception (*perceptio*), which belongs solely to the senses” (*Prol*, 4:300). In the *Stufenleiter* what is distinctive of sensations is that they are subjective, and it seems plausible that this will encompass a broader class of representations than those that are material for intuitions. On this reading, then, when Kant claims that two sensations are connected together in a judgment of perception he only means to be drawing attention to the fact that the representations are not objective, and is not thereby claiming these representations lack the generality of a concept, which allows them to be “predicates for possible judgments” (*KrV*, A69/B94). Further support for this kind of thought can be garnered from the surrounding discussion, insofar as Kant seems to countenance compared perceptions, which have been connected into one consciousness by means of a judgment, and so can serve as concepts in judgments, but which have nonetheless not yet been related to an object.⁴ For these reasons, it seems like a mistake to get bogged down in the question of how these judgments can be formed from

³One place where Kant seems to be claiming only concepts can be either the predicate or the subject of a judgment is (*Refl* 4634, 1772-76, 17:616): “In every judgment, therefore, there are two predicates we compare to one another. One, which constitutes the given cognition of the object, is the logical subject, and the other, which is compared with it, is called the logical predicate.” In §19 of the first *Critique* he complains about the logician’s explanation of judgment as “the representation of a relation between two concepts” on the grounds that some judgments (e.g. hypothetical or disjunctive ones) relate other judgments not concepts (*KrV*, B140-141). Overall, however, this passage seems to imply that the basic components of judgments are concepts.

⁴A few passages where Kant seems to be discussing these ‘subjective concepts’ are: “Hence for experience it is not, as is commonly imagined, sufficient to compare perceptions and to connect them in one consciousness by means of judging” (*Prol*, 4:300); “If one analyzes all of one’s synthetic judgments insofar as they are objectively valid, one finds that they never consist in mere intuitions that have, as is commonly thought, merely been connected in a judgment through comparison, but rather that they would not be possible if, over and above the concepts drawn from intuition, a pure concept of the understanding had not been added” (*Prol*, 4:301); and “The judgment of experience must still therefore, beyond the sensory intuition and its logical connection (in accordance with which the intuition has been rendered universal through comparison in a judgment), add something that determines the synthetic judgment as necessary” (*Prol*, 4:304). See also, *Jäsche Logic*, §40, where he speaks of concepts of objects as arising in judgments of experience.

two immediate representations, when it is concepts as mediate representations that figure in judgments.

Still, this line of response will only get so far. This is because in these passages it seems that intuitions can figure in judgments, not merely as what mediates the connection between concepts, but themselves as subjects. For, although they may only mediate the connections between concepts in judgments of perception or experience proper, there is a “completely different judgment” that occurs before experience can arise which subsumes the intuition under a category (*Prol*, 4:300). Returning to our example, the concepts *air* and *elastic* at this stage in the judgment’s development could be merely sensations, in the sense of being subjective representations that only characterize a state of the subject. The judgement ‘air is elastic’ becomes universally valid and thereby a “judgment of experience, because certain judgments occur beforehand, which subsume the intuition of the air under the concept of cause and effect” (*Prol*, 4:301, cf. 4:300). It is this subsumption of the intuition under the category that then, in turn, “determines the judgment about the air as hypothetical with respect to expansion” (*Prol*, 4:300-301), which is to say, the expansion is represented as belonging to my perception of the air necessarily (*Prol*, 4:305).⁵ For, through this subsumption the ground of the judgment of perception, which previously was only acknowledged as a perception in my subjective empirical consciousness, is now recognized to be a perception of an object that anyone can have. Accordingly, the expansion of the air is no longer merely represented as belonging merely to my or any other subjective state, but as belonging to the air itself as an object in nature. And in this way, through the addition of the concept of cause an element of necessity is added to my merely empirical perception.

So where does this leave us as to the question of the role of intuition in the judgment whereby the judgment of perception is transformed into a judgment of experience? Because intuitions are immediately connected to their objects, it seems plausible that we should not expect intuitions to be able to serve as predicates in judgments. Then they would have to be capable of being connected to their objects mediately through the subject. But at least in this case, it seems intuitions can be subjects, directly subsumed under the category

⁵In the *Metaphysical Foundations of Natural Science* Kant develops his conception of elasticity as either expansive or attractive (*MAN*, 4:500, 4:529).

without further mediation. On this account, with the subsumption of the intuition under the category of cause, the judgment of perception is transformed into one of experience. This in turn involves the concepts of *air* and *expansive elasticity* being brought under the category, and their connection is thereby cognized as causal.

Béatrice Longuenesse has developed a different account on which the intuition is subsumed under the category by means of the subsumption of its concept.⁶ I think she goes this way because of how she conceives of judgments as connecting concepts (Longuenesse, 1998, ch.4 & p.107-108). I think that this leads her to not clearly distinguish the stage at which the intuition is subsumed under the category from the moment when, as a result of this, the judgment of perception is turned into a judgment of experience (Longuenesse, 1998, p.178). As a result I think she does not respect the independence of “the completely different judgment” and gets the order of the determination wrong, seeing the perception as brought under the category through its concept (e.g. of air), not its concept as subsumed under the category by means of the subsumption of the perception.

On Longuenesse’s behalf one could cite (*KrV*, B129): “Through the category of substance, however, if I bring the concept of body under it, it is determined that its empirical intuition in experience must always be considered as subject.” Here it seems the intuition is determined through the subsumption of the concept, not the other way. Still, my reading fits with the passage. The concept body does get subsumed under substance and after this the intuition must always be considered as subject. Nonetheless, I take this passage not to be descriptive of the exact moment when this determination takes place. That happens with the subsumption of the intuition, which brings about the subsumption of the concept body, as described in the *Prolegomena*.

⁶I refer the reader to Longuenesse’s discussion of judgments of perception and experience in ch. 7 of (Longuenesse, 1998) for more of a discussion of Kant’s cases than I will offer, as well as philosophically subtle exegesis. I side with her against many earlier interpreters in thinking that the distinction between judgments of perception and experience continues to be significant in Kant’s thinking long after the *Prolegomena*. In particular, I take the example from §19 to be adverting to the distinction although he does not mention judgments of perception and experience by name. On this point, my reading differs with hers, however, insofar as I think that the reason Kant isn’t using these names is that he isn’t really addressing the topic in the first *Critique*. The Transcendental Deduction is concerned with proving the objective validity of the categories, and thus the validity of that determining judgment which subsumes the empirical intuition under the category, transforming the judgment of perception into a judgment of experience, but not so much with the relation between these kinds of judgments themselves.

It can be hard to see why this dispute matters: either way both intuition and concept get subsumed under the category. Why worry about the question of whether the intuition of the body, say, has its relation to its object because its concept has been seen to be the concept of a substance, or whether the concept body is seen to be a substance through the relation of the intuition to the object by its subsumption under the category? For one, this has ramifications for how we read Kant's account of the generation of empirical concepts and how these acquire their relation to an object.⁷ More to the point here, however, this issue is important for how we conceive of the way in which the representation of necessity enters into judgments of experience, and this is an important aspect of our topic.

Even still, this can seem a bit thin. One way to give the point a little more bite is to wonder why, if it is the concept that is subsumed under the category, it isn't the way in which the concept can figure in objectively valid judgments that is determined through this subsumption, but only the way in which the intuition justifies various judgments. For, a general feature of how these transformations happen that I think suggests the intuition is subsumed under the category directly is thrown into relief by a striking feature of 'the air is elastic' case: although the logical form of this judgment would appear to be categorical, Kant claims that the intuition is determined through the category of cause, corresponding to the hypothetical form of judging. In this way, although cause will determine for the intuition "the mode in general in which it can serve for judging" (*Prol*, 4:300), we should be careful not to take this as meaning that this intuition can only serve in judgments with a hypothetical form. The reason why he says it is determined with respect to cause and not substance, I suspect, is that elasticity is not so much an accident of air, "a particular way for it to exist" (*KrV*, A186/B229), as it is a causal power air has to interact with other things. Thus, if we were to spell out the determination expressed in the judgment, in accord with its proper metaphysical nature, we would have: 'if compressed air is released, it will expand to refill its

⁷Longuenesse conceives of empirical concepts as acquiring their relation to an object through the merely logical acts of comparison, reflection, and abstraction described in §6 of the *Jäsche Logic*. On my account, however, these logical acts only compare perceptions and "connect them in one consciousness." This 'concept,' merely "drawn from intuition," is only related to an object through its use in a judgment of experience, and thus only becomes properly objective perception or cognition through the subsumption of the intuition under the category. My separation of these two moments, in turn, is connected to the way in which I think her reading makes the origin of pure concepts of the understanding and empirical concepts too similar, thereby sensualizing the former and intellectualizing the latter.

original space,’ and this judgment will have the logical form ‘if . . . , then . . . ’. If the concept of air were what was subsumed under the category of cause, and thereby the intuition of the air was also subsumed, we might expect the concept to only be able to figure in hypothetical judgments with respect to its elasticity. Of course, Longuenesse recognizes this is not the case. But we might wonder why she is entitled to this, given the way she is thinking of the determination by the category.⁸

3.2 JUDGMENTS OF EXPERIENCE

Turning to judgments of experience, they will not merely be valid for me, but will be true of their object or ‘objectively valid,’ and will hold for everyone always, universally. The first step in understanding the representation of necessity that enters with the determination of the intuition is understanding why and how the objective validity and necessary universal validity for everyone—that all subjects could make the judgment in the same position and should judge in accord with it—are interchangeable: whenever the one applies so will the other. On Kant’s account, necessary universal subjective validity is a kind of touchstone for objective validity. If a judgment agrees with its object, then all of the other judgments that agree with that object must agree with it, and so these judgments must agree with one another no matter who makes them when. Thus, objective validity entails necessary universal validity for all subjects. Conversely, if we deem a judgment universally valid, then if the judgment does not concern a mere feeling, we must also take it to be objective: to attribute a property or feature to an object.⁹ “For there would be no reason why other judgments necessarily would have to agree with mine, if there were not the unity of the object—an object to which they all refer, with which they all agree, and for that reason, also must all harmonize among themselves” (*Pröl*, §18, 4:298). This is a kind of common sense

⁸For Longuenesse’s account of why Kant claims the form of this judgment is hypothetical, see (Longuenesse, 1998, p. 175-176).

⁹It is only in aesthetic judgments of taste that Kant seems to think that we find subjective universal validity without also finding objective universal validity. Here the object elicits a pleasurable purposive play between our faculties of understanding and imagination that we judge should take place in any knower with these faculties. But because the determining ground of the judgment is merely the feeling of pleasure, the judgment must be grounded in the constitution of the subject, and so is not objective.

point: if we are all making judgments about the same object, then all of these judgments should agree with one another, and if all of our judgments about something should agree with one another, it is because they are about the same object. In this way, while universal necessary subjective validity is a sign of objective validity (insofar as if it is not the former then it will not be the latter) objective validity is the ground of universal validity (cf. *KrV*, A820/B848-A821/B849). Although we might learn of the unity of the object through the unity of our judgments, it is because of the unity of the object that there will be this unity to our judgments.

There is also a converse dependence, however, which explains why Kant thinks that the only grounds for deeming a cognitive judgment to be universally valid can be the unity of the object. To see this we first need to note that he maintains we come to deem an empirical judgment necessarily, universally valid not because of the perception, but because of the pure concept of the understanding, the category, under which the perception is subsumed (*Prol*, §18, 4:298). I think the way that we should read the first paragraph of §19 (which I quoted at the beginning of the chapter) is as arguing that the objective validity of judgments cannot be stemming from the perceptions provided to our sensibility by the object either, but must also be coming from the categories. In that paragraph things become more technical, because Kant is trying to explain how the objective and the universal, necessary validity of judgments are grounded in the categories. Here he is working from the necessary, universal validity of the categories and arguing that the objective validity of the judgments derives from this. That is, in this paragraph he is arguing that we cognize the object, which is an object of the senses, “by means of the universally valid and necessary connections of the given perceptions” (*Prol*, §19, 4:298), which connections result from the categories. And since this is the case for all such objects, “judgments of experience will not derive their objective validity from the immediate cognition of the object (for this is impossible), but merely from the condition for the universal validity of empirical judgments,” which rests on the categories (*Prol*, §19, 4:298-299).

How can this be? If in §19 he is arguing the objective validity of our empirical judgments is grounded in the necessary, universal connections among perceptions, then isn't Kant going back on the claim of §18 that the necessary, universal validity of judgments was grounded

in the objects? Or isn't he at least guilty of a vicious circularity? No. The ground of the universal validity is the objective validity, and the objective validity is grounded in the universal validity of the categories, but there is no problem here. For the nature of the object on this account is grounded in our faculty for knowing it, in the way we discussed in chapter one. In this case, we learn of the objective validity of the judgments through their necessary universal validity, this universal validity is grounded in their objective validity, but the objective validity is grounded in the necessary universal validity of the categories, because the form of the object is itself grounded in the faculty for knowing it.

For example, suppose we experience that the sun warms the stone. We hold the judgment of experience constitutive of this, 'the sun warms the stone,' to be universally valid for every possible finite knower. Why? Because there is a causal connection between the sun and the stone in the warming. Although we learn about the sun, the stone, and the warming through contingent sensation, this causal connection is a necessary feature of the objects situated in nature that we represent as necessary in the experience. The representation of this necessity—that it will hold for all knowers always—happens through the concept of cause, as one of the fundamental concepts of the understanding, since the representation of this specific causal connection will have its synthetic *a priori* grounding in the category of cause as we examined in chapter two. This knowledge of the specific necessary connection, as knowledge, accurately represents a necessary causal connection in the objects. But as we saw in chapter one, such necessary features, to be able to be known as necessary, must be grounded in the faculty for knowledge.

We will turn to how exactly these specific necessary features are grounded in our faculty in a moment, but to this account of why universal, necessary validity and objective validity are reciprocal concepts it might be objected that when one makes an ordinary judgment, one need not represent that it will hold for everyone always. All that is required is that one be making a judgment about an object. I think there is something to this objection, and the point behind it can be furthered by noticing that in the corresponding passages from the first *Critique*, such as the chapter on having an opinion, knowing, and believing, Kant does not discuss a universal, necessary grounding for the categories at all. We might take this to suggest that it is because of the polemical context of the *Prolegomena* that Kant is stressing

this point there. For, without the universal validity of the categories, which someone like Locke or Hume deny, there will be no objective validity.¹⁰ In any case in the *Critique*, say in the transcendental deduction, what is of central concern is not so much their universal subjective validity, but how the categories ground the nature of the objects, and so how they are the ground of the objective validity of our knowledge. It is this, then, that will be my focus in what follows.

3.3 DETERMINATION OF THE INTUITION THROUGH THE CATEGORY

Here we will be looking at three further examples Kant gives of the determination of an intuition through the categories by which an objective judgment is brought about. These will involve quantity, substance, and cause. Before delving into this, it will help to look at a few of the explanations Kant gives of the categories, as pure concepts of the understanding. Finally, after having presented the examples, we will be in a position to conclude the section by returning to the question of how, in general, the form of the object is constituted through the validity of the categories.

3.3.1 The role of the categories

First, from the sections of the *Prolegomena* we've been looking at:

The given intuition must be subsumed under a concept that determines the form of judging in general with respect to the intuition, connects empirical consciousness of the latter in a consciousness in general, and thereby furnishes empirical judgments with universal validity; a concept of this kind is a pure *a priori* concept of the understanding, which does nothing but simply determine for an intuition the mode in general in which it can serve for judging. (*Prol*, 4:300)

Here we begin with an empirical consciousness of the manifold of intuition. This is merely subjective, and so far we take our consciousness of it to be contingent. When we subsume this

¹⁰Here I am following an interpretive suggestion made to me in conversation by Stephen Engstrom

intuition under the category we synthesize the manifold according to it, which determines the way the intuition can serve in judgments that will be valid for everyone always.

Shortly after this passage Kant claims that whenever we analyze our objectively valid synthetic judgments we will find that a pure concept of the understanding has been added that subsumes the intuition (*Prol*, 4:301). And in the first *Critique*, Kant fills this out by explaining that the categories “are concepts of an object in general, by means of which its intuition is regarded as **determined** with regard to one of the **logical functions** for judgments” (*KrV*, B128). Briefly, for causality, this logical function is the hypothetical one, under the heading of relation, which connects two other judgments. For substance, this function is one of categorical, subject-predicate judgments. While, “magnitude is the determination that must be thought through a judgment that has quantity” (*KrV*, A246).

We will examine how these cases work in more detail momentarily, but in his official description of the categories in the *Prolegomena* another aspect of their nature emerges. There he says the pure concepts of the understanding, “are nothing more than concepts of intuitions in general insofar as these intuitions are, with respect to one or another of [the moments of thinking in judgment], in themselves determined to judgments and therefore determined necessarily and with universal validity” (*Prol*, §21, 4:302). It is not just that the category determines the intuition or perception, thereby making it suitable to serve in objective judgments, but that the intuition is ‘in itself determined’ to judgments. Another way Kant will describe this is by saying that:

The judgment of experience must still therefore, beyond the sensory intuition and its logical connection (in accordance with which the intuition has been rendered general [*allgemein*] through comparison in a judgment), add something that determines the synthetic judgment as necessary, and thereby as universally valid [*allgemeingültig*]; and this can be nothing but that concept which represents the intuition as in itself determined with respect to one form of judgment rather than the others, i.e., a concept of that synthetic unity of intuitions which can be represented only through a given logical function of judgments. (*Prol*, §21a, 4:304)

In this way, it seems there is some sense in which the intuition is in itself determined, in addition to the way that it is determined by the category when it is subsumed under it in a judgment. In what follows we will need to see not only the way in which the category determines the subsumed perception, but also how this perception is represented as determined

‘in itself’ through the category.

3.3.2 Examples: quantity, substance, and cause

Turning now to the first of our examples in the *Prolegomena* Kant explains how even the axioms of pure mathematics will be determined through quantity:

The principle: a straight line is the shortest between two points, presupposes that the line has been subsumed under the concept of magnitude [*Größe*], which is surely no mere intuition, but has its seat solely in the understanding and serves to determine the intuition (of the line) with respect to such judgments as may be passed on it as regards the quantity of these judgments, namely plurality [*Vielheit*] (as *judicia plurativa*), since through such judgments it is understood that in a given intuition a homogeneous plurality [*vieles Gleichartige*] is contained. (*Prol*, 4:301-302)

Here then the intuition is regarded as determined through the category of quantity. A page later he will spell out the concepts under the heading of quantity (*Quantität*) as unity (*Einheit*), plurality (*Vielheit*), and totality (*Allheit*). Next to these specifications, he will also include in parentheses, measure (*das Maß*), magnitude (*die Größe*), and whole (*das Ganze*). In the principle we claim that the line is the shortest. Accordingly, we are claiming that it has the least magnitude (*Größe*), compared to all of the lines whose length would be greater.¹¹ In this way, in connecting the concepts in the axiom through the judgment we presuppose that the intuition of the line is determined through the category of quantity, by its having been subsumed under the concept of plurality (*Vielheit*), since it has a magnitude (*Größe*).

In the first *Critique*, Kant gives the example of substance (*KrV*, B128-129; A246). This example will be markedly different from the case of plurality because unlike there, where the plurality of homogeneous parts was constitutive of the intuition, it will not be constitutive of the intuition that it is of a substance. Rather, this subsumption of the intuition under substance will only determine the way the intuition can figure in judgments. In the judgment

¹¹This, in turn, requires that we think of the quantity of its parts as smaller than the quantity of the parts of the others. In a footnote to *judicia plurativa* Kant clarifies that although the logicians call these judgments *particularia* (*Besondere*), because this term already contains the thought that they are not universal, he prefers the term ‘plural,’ which leaves open that one might progress through the plurality to its totality. The reason this remark is relevant in this case is that with respect to the intuition in question, this means that its exact magnitude can be left undetermined. Its length is a further downstream issue that we need not consider. All that matters is that the number of units in it is less than those of any other line.

‘all bodies are divisible,’ the logical use of the understanding is indifferent as to which of the two concepts is the subject and which is the predicate. One could just as easily judge ‘something divisible is a body.’ When we subsume our intuition of body under the concept substance, however, we think of it as an intuition of something that “must be the ultimate subject of all other determinations” (*KrV*, A246). Accordingly, in so doing, we maintain this “empirical intuition in experience must always be considered as subject, never as mere predicate” (*KrV*, B129). This does not make ‘something divisible is a body’ illegitimate, just as subsuming the perception of the air under the category of cause did not make ‘air is elastic’ illegitimate. Both are connections among concepts that are still justified by the intuition. Kant is claiming the intuition of the body, not its concept, must always be considered as subject. In this way, with the subsumption of the intuition we recognize a determination in it, as an immediate representation of the object, that is lacking in the categorical combination of the concepts in judgment.

In the hypothetical case the kind of non-logical determination of the intuition is even clearer. To see this let’s use the example of ‘the sun *warms* the stone.’ This judgment can be paraphrased into ‘if the sun shines on the stone, then it causes the stone to be warmed.’ Here we have a hypothetical judgment connecting two categorical judgments, which each concern a substance and one of its accidents. In subsuming the intuition of the sun warming the stone under the category of cause, we recognize a causal connection obtaining between these substances. One is now recognized as agent, the other as patient, and the modification of the one by the other is recognized as bringing about a new accident in the patient. In determining the intuition through the category of cause, we determine the connection between agent and patient as one that is universally valid. We thereby bring the agent, the sun, under the concept cause, and bring the effect in the patient, the warming, under the concept of effect. Further, this is a necessary connection of existence between antecedent and consequent in the intuition. That is, the order of the perceptions in the intuition is determined to be such that the perception of the warming of the stone will necessarily follow that of the shining of the sun for everyone suitably situated, and this is because the sun is warming the stone. As in the above case, the intuition also justifies other judgments like: ‘if the stone became warm, it might have been because of the sun’ or ‘if the sun shines on the stone, then the

stone becomes warm.’ Nonetheless, with the subsumption of the intuition we recognize a determination in it, by the hypothetical form of judgment, that is lacking if we only consider the justifiable hypothetical relations between the judgments.

3.3.3 The objective validity generated through the validity of the categories

In each of these cases, the material for the judgment is an intuition and through subsuming this intuition under a pure concept of the understanding, we represent that intuition as determined with regard to one of the logical functions of judgment. That is, we represent the manifold of intuition contained in the intuition as combined for everyone always in accord with the rule specified by the pure concept of the understanding. In this way the necessity that we represent in the intuition through its subsumption under the category is a matter of representing how the intuition must be for all possible knowers. Accordingly, although other knowers who have not yet made a judgment of experience, but only of perception, on the basis of this intuition do not yet represent the necessary connection of its manifold, they could. Their intuition is also combined in this way, and they can also represent it as so combined for everyone always. This is how we should understand Kant’s claim that the intuition is “determined in itself.” For, after having subsumed the intuition under the category, the necessary universal validity of this judgment entails representing the intuition as already in itself determined prior to one’s having made the judgment, despite not yet having represented it as such. Kant will use the word ‘synthesis’ to designate any combination (cf. *KrV*, B130; A77/B103). And this kind of universal necessary synthesis through the pure concepts of the understanding, he will call ‘pure synthesis.’¹²

The object that we make the judgment about, and relate the intuition to, is an object of experience. That is, it is something we know in experience. And so it is not some object in itself, considered apart from how we know it, but an appearance, a sum or complex of connected representations. Before experience, and the cognition of the object through a judgment of experience, not only must we suppose that the intuition is in itself determined

¹²For the sake of what we are doing here, we need not delve too deeply into the details of Kant’s account of synthesis and pure synthesis. I think, however, we should be somewhat wary of accounts of pure synthesis that find more going on in it than is required for the way in which the intuition is going to be able to serve in objective judgments.

for all knowers, but also that the object is there to be known, and that the intuition is an immediate representation of this object. Kant will use the term ‘appearance’ to designate this object of the empirical intuition (*KrV*, A20/B34).¹³ Now, all of the possible representations of this appearance will accord with one another as possible representations of the same object. And when we make a judgment about this object we represent it as the ground of this universal necessary agreement or unity in the possible representations someone could have of it.

The nature of the appearance, however, is in turn grounded, at least in part, in the nature of our faculties for representation. For, the appearance can affect us in various ways, and thereby provides a number of possible representations to us. Considering these representations on their own they would be a mere heap, dispersed and unconnected. They would be valid for me in my subjective state, but would not be related to an object in that they would not be recognized as produced by something in nature that can produce similar representations in others. It is through the pure concepts of the understanding that we determine the connections that must obtain between these representations universally for all knowers (*Prol*, 4:299). In this way, the representations produced by the object are not connected together on their own. Rather, it is through the categories that these representations are connected to one another into representations of an object. When we make a judgment using the categories, we make a judgment about the object that is supposed to govern possible experience for everyone always. As a result, the judgment represents how the intuition of the object must be determined in itself for all finite knowers. In making a theoretical judgment about an object, such as those made in experience, we articulate features of the object, such as how it is causally connected to other objects or how it fills the space it is in. Now, the object is the sum of these connected representations—we only have appearances available to us, but these appearances will be connected together according to certain rules or laws. It follows from the truth of our judgment that this object will in fact be so situated causally and spatio-temporally. What this entails is that the representations

¹³Although the intuition is determined in itself through the category insofar as it can serve in a judgment of experience, both the intuition and the object will be determined in a different sense through the judgment, because the judgement indicates or determines the way they both are. Now Kant will call the object, after it has been determined through such a judgment of experience, an object of experience (e.g. *KrV*, A93/B126), while before this he will call the undetermined object of intuition an appearance (e.g. *KrV*, A20/B34).

of all other knowers should also be connected together as we are claiming. But for us to be able to legitimately claim this is how the object must appear to others, for there to be this necessity or strict universality to our claim, these causal and spatio-temporal features of the object—these necessary determinations in its representations—must be grounded in the faculty for knowledge we share with all knowers.

3.4 THE SYNTHETIC *A PRIORI* FORMS OF OBJECTS

To this, however, it will surely be objected that there is something contingent about the spatio-temporal and causal position of an object of experience. After all, even according to Kant, “experience, as *a posteriori* cognition, can provide only [*bloß*] contingent judgments” (*Prol*, 4:305n). So by claiming there is necessity in judgments of experience that arises through the involvement of the category, and on which the objectivity of the judgment depends, aren’t I fallaciously making something contingent necessary?

Kant replies to this very worry as follows:

If I say: Experience teaches me something, I always mean only the perception that is in it—e.g., that upon illumination of the stone by the sun, warmth always follows—and hence the proposition from experience is, so far, always contingent. That this warming follows necessarily from illumination by the sun is indeed contained in the judgment of experience (in virtue of the concept of cause), but I do not learn it from experience; rather, conversely, experience is first generated through this addition of a concept of the understanding (of cause) to the perception. (*Prol*, 4:305n)

In the remainder of the chapter, I will be focussed on trying to understand the exact nature of this necessity in experience. To do this I will develop a reading of the following passage describing the way in which the modal principles are involved in judgments of experience:

There also belongs to judgments of experience the cognition of agreement and connection: not so much of the appearances among themselves in experience [which are governed by the relational categories], but of their relation to experience in general, a relation that contains either their agreement with the formal conditions that the understanding cognizes, or their connection with the material of the senses and perception, or both united in one concept, and thus possibility, existence, and necessity according to universal laws of nature. (*Prol*, 4:307-308)

What I will argue is that, first, these ‘formal conditions’ of experience in general are the rules governing the form of possible experience, and this has its synthetic *a priori* grounding in our faculties in the three ways discussed in the last chapters. Second, through sensation or perception, which is contingent, on its own dispersed, and only capable of justifying subjective judgments of perception, we acquire the material of experience. Third, through the determination of this matter through this form, we arrive at cognition of an actual object, which is situated in nature and determined to be the way that it is through all of the causal laws governing the connections of objects in nature, as well as the other objects prior to or simultaneous with them.

3.4.1 The form of possible objects of experience

In this subsection I will delineate three elements in the form of possible objects of experience. These will be three ways in which a representation can make an object possible—three kinds of synthetic *a priori* grounding of an object in a representation. These will correspond to the three synthetic *a priori* ways in which a formal representation can ground its corresponding specific representations, on Kant’s account, that we discussed in the last chapter: as intu- itable, perceivable, and experienceable. These ways together, in the case of each possible object, will constitute the form of the object and it is through this form that the object will be grounded *a priori* in the representations.

Before turning to elaborate each of these elements, preliminarily, it is worth noting that we first have knowledge of an object in experience and that we should not think of the relevant components of experience as coming together in a kind of temporal process. Rather, the kind of analysis of experience Kant is giving concerns the nature of, and relative dependencies between, the elements that have to be present for experience to be possible. For example, experience would not be possible without perception, and perception would not be possible without *a priori* intuition and sensation. In the first instance, we arrive at our conceptions of these elements through having full blooded experience, and then reflecting on those elements that must have been present for experience in general to be possible. This is so even if we can distinguish mere perceptions in inner sense from experience—as I can, for example, if

I have a perception of a blue swath of color in my perceptual field without recognizing the object affecting me—or if in performing geometric proofs in my imagination I rely on merely *a priori* intuition. Such an empirical, psychological distinction can perhaps be a clue that we should look for distinctions in the kinds of elements that make experience possible, according to the way in which these elements must arise—their metaphysical origin—but we should not let this fool us into thinking that empirically detectible distinctions can always be a guide to the metaphysical distinctions and the necessary order among the elements of experience that we are after.

What is special about the categories of relation is that they determine the relations or order of possible perceptions in experience. That is, they are rules governing how the perceptions that we can have must be ordered, if they are to be experience of an object. Accordingly, the way that these dynamical rules are grounded in our faculty for knowledge is as rules governing the possible succession of objective representations in inner sense. Now the objects of these relational categories—objects of experience existing in nature—in order to be knowable, must be governed by rules corresponding to these rules governing the ways perceptions could be connected in experience. For otherwise, these objects could not give rise to experience, to objectively connected perceptions in us, and so would not be knowable. Because of this the possible laws governing existing objects in nature will parallel the system of laws of possible experience grounded in the categories of relation.

Now, if we take the universal laws of nature—“in all change of appearances substance persists, and its quantum is neither increased nor diminished in nature” (*KrV*, B224), “all alterations occur in accordance with the law of connection of cause and effect” (*KrV*, B232), or “all substances, insofar as they can be perceived in space as simultaneous, are in thoroughgoing interaction” (*KrV*, B256)—according to Kant these are laws that govern any possible nature, any possible way the world could be. This is because if we are to take intuitions to be of objects and so situated in an objective temporal order as we do in experience, we have to see them as indicative of substances that are situated causally in relation to other substances both in time and in space. In this way “the conditions of the **possibility of experience** in general are at the same time conditions of the **possibility of the objects of experience**” (*KrV*, A158/B197).

As we saw in the last chapter, these laws governing possible experience in general become specified in relation to actual possible experience through concepts of experience. For example, having acquired the concepts of the sun, stones, and warming, we can formulate the rule ‘if the sun shines on a stone, then it causes the stone to become warm.’ If we cognize this rule, then not only will it govern the possible objective connections among perceptions in experience, but it will also be a special law of nature governing how things are with these objects. If we form the judgment of experience, ‘the sun warms the stone,’ and cognize the sun as the cause of the stone’s warmth, then this special rule, will be the general rule ‘all alterations occur in accordance with the law of connection of cause and effect,’ now applied concretely to this kind of cause and this kind of effect in this case.

Now, the material for judgments of experience are perceptions. Independently of their role in experience, there will also be certain rules governing these that are valid for the perceptions of everyone always. One example is that within any perception, a straight line is always the shortest between two points. We do not need to think of the perception as of an object in nature for this to be true of it. We do not even need the intuition to be a perception—an empirical intuition containing sensation. Rather, the intuition in question can be *a priori*—a mere form of possible perception. The categories of quantity will govern the rules applying to *a priori* intuitions, while the categories of reality will govern the rules applying to the sensation given in perception. Both of these, however, will be rules that constitutively govern perceptions. That is, by virtue of what perceptions are, empirical intuitions, these will be rules that must apply to them. Thus, as rules governing possible perceptions, the mathematical categories will govern possible experience, because they govern the material from which experience arises. And just as how in the dynamical case, the rules governing possible experience were rules governing possible objects of experience, here too, insofar as we can cognize the objects through the extensive and intensive magnitudes of the perceptions they produce, the objects will be extensive and intensive magnitudes. That is, appearances will affect us with varying degrees of forcefulness, producing different intensities of sensation, and thereby themselves have an intensive magnitude; or again, we can quantify them through counting and perceive them as occupying a position in space and time, and so the appearances themselves will be extensive magnitudes. In this way, the mathematical

categories will also be forms of objects of experience because we can perceive these objects.

Finally, we can conceive of space (and time) as “the substratum of all intuitions determinable to particular objects, and [...] the condition for the possibility and variety of those intuitions” (*Prol*, 4:322). As we saw in chapter two, no knowledge of specific objects is present already in space or time themselves. As original intuitions, we could not analyze anything out of them. Rather, acquiring geometrical or physical knowledge required the determination of space through concepts, as when we draw a line in space *a priori* through the concept of a line (cf. *KrV*, B137-B138). In this way, “the unity of the objects is determined solely through the understanding, and indeed according to conditions that reside in its own nature” (*Prol*, 4:322). That is, space and time, and the manifold of possible intuition in them, do not themselves grant knowledge of even the possible *a priori* form of an object, although they do provide the substratum on the basis of which this knowledge is possible: the *a priori* material to be united and determined into forms of possible perceptions. Thus, the way in which space grounds the synthetic *a priori* relations of positions in space is through an *a priori* order that, although inherited by perceptions of things in space from their being spatial, can only be known through the application of the category of quantity. Nonetheless, just as in the cases of possible perceptions and experience, these rules governing the order of possible intuitions in space and time, will also govern the order of possible appearances as objects in space and time, and so be an element in the form of possible objects of experience, even though these rules are only known through concepts.

3.4.2 The material of objects of experience

Returning to the quote with which we began the last section, we are now in a position to begin distinguishing that in experience which is due to its *a priori* form, and what will be coming “from the perception in it.” The rules governing objects that stem from their being in space and time are completely *a priori*, and we do not learn about these from perception. With regard to empirical intuitions, there is an *a priori* form constitutive of their being extensive and intensive magnitudes, but the quality of the sensation—the blueness or the relish of the pineapple—in the perception can only be known *a posteriori*. Finally, the

most complex aspects will be the way the *a priori* and *a posteriori* elements combine in experience—specifically judgments of experience—and it is this that we will be examining in the rest of this section.

To do this, it will help to return to considering the nature of the perceptions or sensations involved in judgments of perception. Some interpreters have taken §19 of the first *Critique* to be evidence that all judgments, even judgments of perception, involve the relation of the involved representations to an object.¹⁴ After all, it is titled: “the logical form of judgments consists in the objective unity of apperception of the concepts contained therein” (*KrV*, B140). Although judgments of perception unite representations according to the logical moments of thinking, and so can be treated in general logic according to their form, I do not think that they must involve relation to an object.¹⁵ Kant will claim that they merely have subjective validity, and such merely subjectively valid relations of representations are what he is distinguishing objectively valid judgments from in §19 of the *Critique*. Furthermore, in his repeated descriptions of judgments of perception as merely relating two sensations, without reference to an object, it is exactly the kind of objective connection described in §19 that he is claiming need not be there in them. Or to put the point in the vocabulary of the deduction, judgments of perception express a merely empirical consciousness of the unity of the representations through associations of the imagination, but need not relate these to the objective unity of apperception.

Now, it should be noted that in the *Prolegomena* it seems whether a judgment is a judgment of experience depends on the copulative relation in the judgment, not on the material connected.¹⁶ For example, what distinguishes ‘the sun *warms* the stone,’ from ‘if the sun shines on the stone, then the stone becomes warm’ is that in the former but not the latter we represent the connection between the component judgments as determined by the concept of cause, through ‘warming.’ Both judgments share the same component categorical judgments: ‘the sun shines on the stone’ and ‘the stone is warmed.’ In these, the sun and the stone would seem to already be recognized to be substances, and so these component

¹⁴For example, Longuenesse (Longuenesse, 1998, ch. 4, esp. p. 83; ch. 7, p. 173, 180-197)

¹⁵If they did, the object would at most be a momentary state of the judging subject. But Kant does not tend to count this sort of thing as an object.

¹⁶Longuenesse makes this point as well (Longuenesse, 1998, p. 176n20).

judgments would seem to be objective. Nonetheless, not all judgments of experience will be built from material that already refers to an object. One example is ‘the tower is red’ considered as a judgment of perception. Properly paraphrased to express its purely subjective character this judgment is: “I, who perceive a tower, perceive in it the red color” (*JL*, §40, 9:113). Here there is just the sensation or perception of the tower and its redness, but I do not yet see the tower as a tower or as red. Or, for an even simpler case, suppose ‘this is a stone’ expresses the subsumption of a particular intuition as sensation under the ‘concept’ *stone*, where this is still merely a subjective representation, a “concept drawn from intuition,” before its connection with the pure concepts of the understanding (*Prol*, 4:301, §20).

With the second judgment subsuming the perception of the stone under the category of substance the ground of the judgment of perception is recognized to be of an object in nature, and the judgment of perception is transformed into a judgment of experience and similarly with the judgment about both the sun and the stone. What in these do I learn from perception? With the second, Kant says it is “that upon the illumination of the stone by the sun, warmth always follows” (*Prol*, 4:305n). In this way, we will learn about the relative positions of the sun and the stone via the illumination and the change in the intensity of the temperature of the stone all through the perception. Thus, through the perception we learn about the particular extensive and intensive features these objects have (presumably, having already cognized the intuitions of the sun and the stone as intuitions of substances). The necessity that enters through the concept of cause, however, goes beyond the features of these perceptions and determines how possible perceptions must be because of the way things are with the objects. Thus, through cause, in relation to these perceptions, in experiencing the warming, we determine not just the rules or form of possible experience, but rather the rules governing the actual experience of all possible knowers. That is, we judge that there are these substances interacting in these ways—not just that there could be. And we thereby make a claim about how things stand in nature, which fixes not only the rules governing possible perceptions, but what knowers actual perceptions can be.

3.4.3 The necessity in experience

In order to clarify the nature of this necessity in experience, it will help to look at Kant's discussions of contingency and necessity in §18 and §19 of the first *Critique*. There Kant claims that all empirical judgments are contingent, and yet he also seems to want to say there can be some necessity to them. On the basis of passages like this, some interpreters have taken Kant to be saying that all judgments of experience are provisional.¹⁷ It seems to me that this can be heard in two respects. Judgments of experience are fallible. They can be wrong and so are liable to correction in the light of future experience. If that is all that is meant, fair enough. But if they are provisional in the sense of only being valid for right now, then I think drawing such a conclusion would be to deny these judgments their strict universal validity. Either way, we are left with a question concerning the nature of the contingency and necessity that Kant is discussing there.

To understand these sections, we will need to introduce some new terms. In §18, Kant distinguishes two kinds of unity in our consciousness of our representations—two ways that our representations can be combined together. The first is the subjective, merely associative empirical unity of apperception or consciousness. This indicates a way in which all of my representations will be combined, merely in virtue of their belonging to me and coming forward in inner sense for consideration. In being conscious of any of my representations in inner sense, I am also conscious of my own inner states, and conscious of the position of these representations in the subjective succession of these. In this way, all my representations, insofar as I am conscious of them, will share in and be a part of this empirical unity of apperception or consciousness. The second is the objective, transcendental unity of apperception or consciousness. This is a way in which my representations are connected together insofar as they represent objects in nature. That is, representations will belong to this unity insofar as they are objective and represent things as standing in the objective temporal order in relation to one another outside of my self. Accordingly, in this section Kant is picking out with a name the kind of determinate unity of consciousness that we would expect to find

¹⁷One such interpreter is Longuenesse. For the claim of provisionality see (Longuenesse, 1998, p. 193, 194); for her discussion of §18 and §19 see (Longuenesse, 1998, p. 180-188, esp. 184-186). Longuenesse, however, does not explicitly indicate her justification for the provisionality claim, and I am not quite sure how exactly she intends 'provisionality' to be read.

in the representations combined through the concept of an object, as opposed to that unity that all my representations will have, merely as such.

In §19 Kant fills out this nominal explanation of objective unity of consciousness by appealing to the objective relation of given cognitions in judgments. In the key passage, remarking on how the aim of the copula is to distinguish the objective unity of given representations from the subjective, Kant says:

For this word designates the relation of the representations to the original apperception and its **necessary unity**, even if the judgment itself is empirical, hence contingent, e.g., “bodies are heavy.” By that, to be sure, I do not mean to say that these representations belong **necessarily to one another** in empirical intuition, but rather that they belong to one another **in virtue of the necessary unity** of the apperception in the synthesis of intuitions, i.e., in accordance with principles of the objective determination of all representations insofar as cognition can come from them, which principles are derived from the principle of the transcendental unity of apperception. (*KrV*, B142)

Kant then goes on to give an example of the kind of connection that becomes possible in virtue of this relation to the transcendental unity of apperception, and opposes this relation to a relation of these same representations with merely subjective validity. “In accordance with the latter I could only say ‘If I carry a body, I feel a pressure of weight,’ but not ‘It, the body **is** heavy,’ which would be to say that those two representations are combined in the object” (*KrV*, B142). In this passage I take Kant to be claiming that in any objective empirical intuition, like that which licenses ‘bodies are heavy,’ the objective connection of cognitions in it is brought about in virtue of the way the intuition is ‘in itself determined’ through the categories. That is, the intuition will not only license the subjective claim that “the body feels heavy,” but also a claim, of the object, that will be valid for all similarly situated knowing subjects: “the body is heavy.”

How then are we to understand the necessary unity that the copula indicates? When Kant says that he does not mean to claim these representations necessarily belong to one another in the empirical intuition, I think what he has in mind is the point we saw in the last section: abstracting away from the connections these representations have in virtue of the categories, they are a mere heap. Considering them subjectively, merely as they come forward in inner sense they are not the right kind of material for a judgment that can demand

the assent of everyone and claim to be about the object. Nonetheless, if we consider how these intuitions must be if they are to justify a judgment that can be about an object and demand universal assent, then we must see the manifold of the intuition as combined so as to be able to do this for everyone, and so as necessarily combined in accord with the categories. In this way, we should think of the necessary unity of the representations in the judgment as a matter of the connections they must stand in, in virtue of the category that controls the judgment in question.

If that is how we should think of the necessity in the judgment, in what sense is the judgment contingent? Empirical judgments always depend on our actually having perceived the things we are judging about. If we hadn't perceived them, then we wouldn't be able to make the judgment. It is merely in this sense that I think Kant is claiming the judgment is contingent. If that is right, however, 'all bodies are heavy' can seem like a strange example: if we perceive anything, then surely we perceive the heaviness of bodies. I think Kant has chosen his example here carefully. What he wants to bring out is how the contingency in question does not depend on the possibility of not actually perceiving the thing in question. Rather, the judgment is contingent only in the sense that it must appeal to perception in its justification. Now in order to know anything, our faculties must have been enlivened by objects affecting our senses, and so any judgment will depend on perception in this sense, but this does not mean that the justification of a judgment (or its metaphysical origin) depends on this empirical affection. We wouldn't be able to make the judgment, say, 'everything that happens has a cause,' but the justification of this judgment does not itself depend on anything affecting us. Kant maintains that the judgment 'bodies are heavy,' however, does depend on perception for its justification—it is made on the basis of something actually affecting us—and so in this sense this judgment is different from a strictly *a priori* one.

There is, however, a puzzle. I have been aligning the subjective, empirical unity of consciousness with perceptions and sensations considered merely as they come forward in inner sense apart from their relations to objects, while I have been aligning the objective, transcendental unity of consciousness with how representations must be to be related to objects and thereby be situated in the objective temporal order. But in §18 Kant says, "[w]hether I can become **empirically** conscious of the manifold as simultaneous or successive depends on

circumstances, or empirical conditions. Hence the empirical unity of consciousness, through association of the representations, itself concerns an appearance and is entirely contingent” (*KrV*, B139-B140). Here it is clear that the kind of empirical consciousness in question is exactly the merely subjective consciousness we’ve been discussing, and yet it is possible to be empirically conscious of the manifold as simultaneous or successive. In this way, the subjective consciousness cannot just be the unrelenting flow of perceptions in inner sense, but must be able to involve distinguishing those perceptions which could have been had simultaneously from those which must have been successive. This, however, entails situating these in an objective temporal order, not a merely subjective one. So what is this subjective, empirical consciousness, in which we can nonetheless distinguish those perceptions that are successive from those that are simultaneous?

In the last chapter I discussed how the category of causality is involved both in making experience of occurrences and of causal connections possible. In the former it is only involved in a generic way, insofar as any occurrence is in nature and governed by the law that everything that happens presupposes something which it follows in accordance with a rule. In the latter it is involved concretely, in cognizing the specific causal properties of the objects involved. Further, we saw that it is the former, generic involvement that is required for there to be an objective temporal order at all. Something similar is also true for the other categories of relation, with regard to their analogies, according to Kant. For there to be an objective temporal order, we must presuppose that “all appearances contain that which persists (**substance**) as the object itself, and that which can change as its mere determination” (*KrV*, A182/B224), and “all substances, insofar as they are **simultaneous**, stand in thoroughgoing community (i.e. interaction with one another)” (*KrV*, A211/B256). Nonetheless, it seems for this objective temporal order we need not yet cognize any specific such relation.

Let’s look at some examples. In judging ‘if the sun shines on the stone, the stone becomes warm,’ although we do not cognize the warming, we situate the sun and the stone with their accidents in the objective temporal order. Furthermore, in judging ‘either a bit of me is located in my heart, my liver, my eye, etc.,’ although I judge that all of these are parts of my body that exist simultaneously in me, I do not cognize their commerce together as

constituting my organism in the way that I would if I were to judge, ‘this organ is either my heart, my liver, my eye, etc.’¹⁸ Finally, as a judgment of perception, when I judge ‘the sun shines,’ ‘the tower is red,’ or more properly ‘I, who perceive a tower, perceive in it the red color,’ it seems that I may not only reckon these perceptions to the subjective flow of perceptions in inner sense, but may also claim whoever was here right now would have these same perceptions, without yet relating these perceptions to this or that specific object in the world. In these cases I am cognizing that there is something specific happening, there are specific things existing simultaneously, or there is something specific that exists causing my perception, without cognizing how that thing is happening, the way those things are existing simultaneously, or what it is that is causing these perceptions.

Whatever we might make of these proposed examples, I think we can also find this distinction between the way the categories of relation are involved in the constitution of the objective temporal order and their role in cognizing specific objective features of objects, reflected in the difference between how they figure in the analogies of experience and the way that their schemata work. For, if we look at the schemata of substance, causality, and community, which are the rules by which we apply them, it seems that here Kant has their application to specific cases in mind. For, what he says is:

The schema of substance is the persistence of the real in time, i.e., the representation of the real as a substratum of empirical time-determination in general, which therefore endures while everything else changes.[. . .]

The schema of the cause and of the causality of a thing in general is the real upon which, whenever it is posited, something else always follows. It therefore consists in the succession of the manifold insofar as it is subject to a rule.

The schema of community (reciprocity) or of the reciprocal causality of the 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. (*KrV*, A144/B183-184).

In each of these cases he is not indicating a rule that governs objects in nature in general, but a rule for how we can cognize this or that particular real thing through the category in question. Of course, in each of these cases we will not cognize the thing directly through

¹⁸This example is admittedly a bit awkward, but I hope that it is enough to convey the contrast I am after. As Kant notes this kind of awkwardness is what we should expect from the category of community (*KrV*, B112-113), and pausing over this case further here would be a distraction.

the category. Rather, beginning with a judgment of perception, we will then determine the mediating intuition with regard to the category by subsuming the intuition under it, thereby determining the synthesis of the concepts in the judgment and turning it into one of experience. This judgment of experience will then express the empirical rule governing the connection of representations in accord with this category: how that thing is happening, the way those things are existing simultaneously, or what it is that is causing these perceptions.

Returning to the puzzle presented by §18, what I would like to suggest is that it is only by cognizing specific necessary features of objects that we thereby bring given cognitions to the objective unity of apperception in judgments. The aim of objective judgments is not merely to situate representations in the objective temporal order as simultaneous or successive, but to cognize the objective properties of these objects: that bodies are heavy, that the sun warms the stone, or that my organs together constitute my body. Now, I take what I have said so far to be compatible with two readings. In cognizing the objective properties of the object in experience it is sometimes thought that this is a matter of cognizing the rules that govern these objects as objects in nature, situated causally in relation to one another, and which take on different accidents because of their interactions. If that were right, then for true objective representation, thus genuine knowledge in Kant's sense, one must also know the rule governing the object that made things so.

The problem with this account is that it is too sophisticated. In judging 'the sun warms the stone,' we must thereby be recognizing this as an instance of the special causal law, 'when the sun shines on stones, it warms them.' In this case there is a kind of syllogistic or logical necessity to the judgment, in virtue of how we understand this case of the sun's warming the stone fitting into our overall account of nature. It seems we begin here with a general rule, then given this situation, we logically deduce that right now the sun and the stone are standing under this rule. But that makes it seem like the judgment is not an immediate one, so much as one that is made mediately through a major premise. In common experience, in the first instance, I do not think that our judgments can work like this. We can't begin with the general rule and then cognize the instance, rather, we must first cognize the instance and then come to learn the special rule. When the child first experiences the sun warming the stone, she need not know in general that the sun is in the business of warming stones.

Rather, she first judges ‘the sun warms the stone,’ deploying the concept of cause concretely through the concept of warming in this case, and then later can come to formulate the rule ‘when the sun shines on stones, it warms them.’¹⁹

If that is right then what is contingent in experience is merely the sensation we happen to have, the corresponding perceptions, and perhaps that we have sensations and perceptions at all. The category, concretely deployed, introduces necessity into the judgment. And through this, the judgment can eventually be seen to figure in a system of laws that govern matter in general. The necessity in judgments of experience that enters in through the concrete deployment of the category, although stemming from the necessary form governing any possible experience, is not quite the same. For, the necessity in these judgments is a matter of the way things actually are in nature. In these judgments we do not merely cognize the order in our possible perceptions if they are to be experience, or the rules governing the objective order of temporal succession in general, but we cognize the way actual perceptions must be connected for everyone always because of the way things actually stand with the object.

3.5 KANT’S CONCEPTION OF SUBSTANCE

We are now in a position to return the dilemma with which I began the chapter. What we wanted to see was how exactly Kant’s conception of the object of our knowledge was neither a mere Humean bundle of representations, nor a rationalist thing in itself. What we’ve seen is that we know how the real is when we cognize an object in experience, for example, when I know “the sun warms the stone.”

In indicating the schema of substance, Kant describes it as the permanence of the real in

¹⁹Now there is a more refined view on which the judgment happens immediately, but in the midst of this we also cognize the rule it falls under. Longuenesse seems to be thinking of judgments of experience in this way (Longuenesse, 1998, p.178n25). With this refinement, although the view still seems to me too sophisticated and to make common experience look too much like scientific knowledge, it looks a lot better. If we are careful to say that the special rule is only obscurely contained in the judgment—that the knower need not be conscious of it as, say, we saw the knower need not be conscious of the form of a quality space in general in making a judgment about brightness—then the view starts to seem less objectionable. For, I think we formulate the special rule by comparing instances and recognizing what is common across them, and this process is closely related to analysis: it is a kind of exposition of experience (cf. *JL*, §105, 9:143).

time. What does this mean? On the one hand there will be general laws that govern nature. These are merely the rules governing the form of possible experience in general, although as we acquire more concepts, we will be able to understand these ever more concretely as they apply to specific kinds of things. These laws will be permanent and unchanging and at a general level will be what allow us to cognize specific objects in experience.²⁰ So while we will cognize these laws as necessary, alone these are not enough to pick out the specific substance that we cognize in experience. Beyond these, we will also need the material of experience, which is the real as we discover it in this or that experience. This will be contingent in so far as the real will affect us in different ways at different times and places. Nonetheless, in every experience the real will affect us. In this way, although there will be accidental features, specific to matter or the real as it affects us in this or that situation, in all experience it will be the real that we are cognizing, and this will be the permanent substratum common across all experience. In this way, I think we can understand substance, in the proper absolute sense, as the real that affects us to produce perceptions, and the differences across these perceptions, insofar as they are objective, as indicative of different accidents of this one permanent substance.²¹

Accordingly, on the one hand, this conception of substance is not the same as the rationalist one, because this substance is not something in itself, considered apart from our possible knowledge of it. This substance is admittedly something that endures while everything else changes, and so is that persisting real thing, which exists throughout time. Nonetheless, we come into contact with this thing through perceiving its changeable accidents. It is the persisting real in time, and so is merely an appearance—something available to us to be known, but not anything in itself, which must be a substance outside of time altogether on Kant’s view.

²⁰Longuenesse’s position in “Kant on Causality” seems to be that the permanent that we cognize in experience is just these laws (Longuenesse, 2005, p.173-174). She does not seem to be thinking of the real that appears as an important component of this, but instead that we can ascribe these laws to the formal intuition of time Kant discusses in the the famous footnote of §26.

²¹I think, for example, we find this conception of substance underlying what Kant is saying here: “All that we know in matter is merely relations [...] but among these relations some are self-subsistent and permanent, and through these we are given a determinate object” (*KrV*, A285/B341). I have followed Kemp Smith’s translation. The German runs: “Was wir auch nur an der Materie kennen, sind lauter Verhältnisse (das, was wir innre Bestimmungen derselben nennen, ist nur comparativ innerlich); aber es sind darunter selbstständige und beharrliche, dadurch uns ein bestimmter Gegenstand gegeben wird.”

On the other, it is not a mere bundle of representations because it is a real thing outside us that is affecting us. We can only cognize this thing through the representations that we have of it and the only conception of its existence that we can have is through our conception of permanence. But this permanence is not just some other representation among others, bundled together into a representation of how this thing is right now. Rather, permanence, together with everything else that we can have synthetic *a priori* knowledge of in the object, is a necessary feature of the thing, which makes knowledge of the object as an object possible. On a Humean bundle account, this metaphysical priority among the representations is absent: it is not the case that there are some representations within the bundle which make it possible for this sum of representations to count as an object at all. On the Kantian account, however, there will be permanent synthetic *a priori* rules governing the possibility of objects of experience, and so governing how the real exists here now.

3.6 CONCLUSION: A CONSTITUTIVIST VIEW OF OBJECTS

Stepping back now from Kant, what cues should the formal idealist take? The central thought that we have been developing is that for the possibility of our everyday knowledge of objects we need to represent certain features of these objects as necessary, and this is so in two respects. First, we need to represent general rules as governing all possible objects. Second, we need to represent these as governing given objects in specific cases. The reason is that in our common knowledge of objects we take ourselves both to know how things work in general and that they are working this way here and now. Further, to be able to have knowledge of either of these kinds of features of objects, because we represent them as features that will be present to all potential finite knowers, these must both be grounded in our faculty for knowledge. And to represent these features as available to be known to absolutely everyone, necessarily, we must represent them, however obscurely, as grounded in our faculty. For, it is only in these ways that our knowledge can be both objectively and universally subjectively valid.

I think all of the points in this sketch should be accepted by the formal idealist. One

might argue that these kinds of considerations should only need to be accepted for the first general level of knowledge, not for the specific knowledge we have of the features of this or that object. As many interpreters of Kant have pointed out with the case of cause, to accept ‘everything that happens has a cause’ is a synthetic *a priori* truth is already to break with a Humean account. Similarly, one might hold that to maintain we have knowledge of general necessary truths in the manner described is already to be a formal idealist—it is already to take the objects of our knowledge to be partially constituted by their relation to our faculties, through these general metaphysical laws. On such a view, however, although we would be able to have knowledge of these general laws, we would not be able to have knowledge of the features of this or that specific object. We would at best only be able to know that so far this is how things have worked, and in this way our specific knowledge could only be inductive. Although this might be the kind of knowledge we take ourselves to have during the development of a scientific theory, it is not the kind of knowledge we take ourselves to have when we make ordinary judgments about the objects of our experience. For this kind of knowledge to be a genuine possibility, the formal idealist thesis must be true at the level of specific features as well.

Nonetheless, commitment to all of these elements still does not obviously entail commitment to further, even very high level features of Kant’s account. As long as we have a distinction between general laws, and knowledge of specific objects, as well as a distinction between what we might encounter, what we contingently encounter, and what we must encounter, and our knowledge of these, it seems we have the resources for a formal idealist view. Accordingly, we need not go in for Kant’s conception of our understanding or sensibility or even, it seems, the distinction between them. Nonetheless, I hope that having looked at a few examples of the various ways in which the structure of synthetic *a priori* knowledge works in Kant’s philosophy has provided a more concrete sense of how formal idealism in general works.

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