

## *Logical Form as a Relation to the Object*

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Analytic philosophers have turned to Kant to free themselves from the empiricism that dominates the analytic tradition. Their effort must be carried further, if it is to achieve its end. They have contested a conception of sensibility that represents logical form as external to what is given in sensory intuition. In order to complete what they have begun, we must renounce the conception of logical form that is the correlate of this conception of sensibility.

According to the view that is canonical in the analytic tradition, the logical form of a thought is the way in which it is inferentially *related to other thoughts*. Call this the inferentialist conception of logical form. By contrast, according to Kant, the form of a thought is, more fundamentally, the way in which it *relates to an object*, which in the case of theoretical thought is something given in sensory intuition, and in our case something temporal.<sup>1</sup> Call this the transcendental conception of logical form. Contemporary Kant exegesis, be it more systematically or more philologically inclined, has been hampered by an unconscious and therefore unquestioned allegiance to the inferentialist conception of logical form. This has had two consequences. First, many authors who find value in Kant's account of experience take little interest in his account of *pure* knowledge, even though Kant presents that account as the sole end of the *Critique*. For, the form of thought cannot come into view as a source of pure knowledge when it is understood inferentially, but only when it is seen to be a way of relating to the object. Secondly, Kant scholars are confounded by the Analogies of Experience. For, these describe the logical form through which thought relates to the temporal. And the idea of such a form cannot be

framed within the inferentialist conception. I want to suggest, then, that both philosophical logic and the interpretation of Kant will move forward only when it is appreciated that Kant challenges not only the empiricist conception of sensibility, but also the inferentialist conception of logical form that is its counterpart.

I shall proceed as follows. I introduce in a general manner the notion of logical form and the correlate notion of a category (section 1). Then I discuss Frege's philosophy of logic as an example of the inferentialist conception of logical form, with the aim of bringing out an obstacle to giving a complete account of the form of thought in terms of inferential relations: an account of the form of thought must explain how the intellect determines its object a priori by its form, and this cannot be explained by appeal to relations thoughts bear among themselves alone (section 2). Quine's account of logical form attempts to circumvent the obstacle by denying that thought as such has a form. Then, of course, it does not determine the object by its form. However, Quine fails since, denying it any form, what he presents as thought lacks the character of thought (section 3). Kant explains how the intellect determines its object a priori in this way: it a priori determines what is given in intuition by determining it according to the form of intuition. As this form is time, the form of thought, as it a priori determines sensibility, is the form of thinking the temporal, not only in the sense that what is represented according to it is temporal, but in the sense that it is *represented as temporal* in virtue of being thought according to that form (section 4). The Analogies of Experience describe this form of thought, thus articulating pure knowledge of what is given in intuitions whose form is time. I develop this account of the Analogies in a reading of the First Analogy (section 5). This will show how the inferentialist conception of logical form depends on the transcendental conception (section 6).

## 1. FORM OF THOUGHT AND CATEGORY

The logical form of a thought is the manner in which it is articulated; equivalently, it is the way in which its elements are joined so as to yield a thought. The form of a thought is its unity. As Kant puts it, forms of thought are "Funktionen der Einheit in den Urteilen" (B 94).

A category, or formal concept, determines something solely with regard to the form according to which it is thought, that is, solely with regard to the manner in which, being thought according to that form, it is joined with other things. Kant says the category contains "allein die Form des Denkens eines Gegenstandes überhaupt" (B 74). A table of forms of thought gives rise to a table of categories.

Categories are not empirical concepts. While empirical concepts derive from sensation, the categories originate in the intellect. In the fundamental case, one possesses an empirical concept in virtue of the fact that objects falling under it have affected one's sensibility. One has the concept from the objects falling under it, as

these are given in intuition. By contrast, one applies a category in thinking thoughts of the corresponding form, that is, in joining things in the manner the category describes. Hence, not sensory affection by an object, but acts of thinking an object, thinking it according to a certain form, provide one with the category. One does not receive the category *from the object*. In Kant's apt words, the intellect supplies the category *from itself* (B 1).

## 2. FREGE

### 2.1. FREGEAN CATEGORIES

Gottlob Frege writes in the preface to *Grundgesetze der Arithmetik*:

Jedes Gesetz, das besagt, was ist, kann aufgefasst werden als vorschreibend, es solle im Einklang damit gedacht werden, und ist also in dem Sinn ein Denkgesetz. Das gilt von den geometrischen und physikalischen nicht minder als von den logischen. Diese verdienen den Namen "Denkgesetze" nur dann mit mehr Recht, wenn damit gesagt sein soll, dass sie die allgemeinsten sind, die überall da vorschreiben, wie gedacht werden soll, wo überhaupt gedacht wird. (XV)

The laws of logic do not govern thought about a particular subject matter; they govern thought as thought. In this way, they reveal what thought is. Frege also says that logic is the science of the mind or the thinker or the intellect, as opposed to this or that mind or thinker or intellect.<sup>2</sup> He means that the logical laws are laws of thought, not in the sense that they describe how this or that intellect happens to operate, but in the sense that they are the nature of the intellect.

If thought is subject to the laws of logic, then the intellect is defined by certain logical forms, certain "Funktionen der Einheit in den Urteilen." Frege's concept-script, representing only the character of a thought that decides how the laws of logic apply to it, shows this: it represents thoughts as articulated in certain ways. Representing thought as subject to the laws of logic is representing it as articulated in these ways. An exposition of the Fregean system of the laws of logic contains a table of logical forms.

The concept-script represents elementary thoughts, thoughts whose truth conditions do not depend on the truth conditions of other thoughts, as articulated in a certain way. Frege describes this mode of articulation by calling what such a thought represents "object" and "first-order concept." The concept of a Fregean object and the concept of a Fregean concept are categories: they describe to what they apply solely with regard to the form according to which it is thought. An exposition of the laws of logic contains, with its table of logical forms, a table of categories.

As thought is subject to the laws of logic, it exhibits certain logical forms, to which correspond certain categories. According to Frege the laws of logic are the nature of the intellect; thought as thought is governed by them. It follows that the

forms of thought and the categories that spring from these laws define the intellect. That is, the intellect supplies from itself the system of categories of the concept-script.

The laws of logic are the principle of the form of thought, the principle of the kind of articulation that belongs to thought as thought. Now, the laws of logic of which Frege speaks are, fundamentally, laws of deductive inference. Their study is the office of what Kant calls general logic, which he characterizes as follows:

Die allgemeine Logik [ . . . ] abstrahieret von allem Inhalt der Erkenntnis, d. i. von aller Beziehung derselben auf das Objekt, und betrachtet nur die logische Form im Verhältnisse der Erkenntnisse aufeinander [ . . . ].  
(B 79)

General logic attends to relations thoughts bear among themselves, their inferential relations.<sup>3</sup> It abstracts from the fact that thoughts represent an object. It is not that general logic leaves it open whether the thoughts whose relations it studies represent an object. It presupposes that they do, but does not make that a topic.

I said Frege's laws of logic are laws of general logic in Kant's sense. This may seem wrong. Does not the concept-script by showing how the way in which a thought is related to other thoughts according to the laws of logic reveal it to relate to Fregean objects? For Frege, then, attending to the form thoughts bear in relation to each other does not mean abstracting from their relation to the object, and Kant's opposition of transcendental and general logic is not sound. But Frege uses the term "object" differently from Kant. He employs it to designate a specific formal concept, which describes to what it applies as such as to be thought according to a specific form. In Kant, an object is what thought as such seeks to represent and by its agreement with which, if it succeeds, and not per accidens, it is knowledge. When Kant says that thought relates to an object, he does not represent it as articulated in any particular way. If an object in Kant's sense can be thought according to the elementary form represented by the concept-script, then it, the Kantian object, is articulated into Fregean object and Fregean concept. I speak of an object simpliciter when I use the term as Kant does so, of a Fregean object otherwise.

According to Frege, thought as thought exhibits a certain articulation, which its expression in the concept-script reveals. The expression shows, and shows only, how the thought expressed falls under the laws of deductive inference. So these laws are the principle of the articulation that belongs to thought as such. This is the inferentialist conception of logical form: the deductive order of thought is *the principle* of its inner articulation; an exposition of the laws of inference is a *complete* account of the form of thought. Then general logic can by its own means comprehend the form of thought and articulate the content of the categories. For, a description of the system of laws of inference *exhausts* their content. For example, in order to understand what a Fregean object is, it is necessary and sufficient to grasp the laws of the concept-script.

## 2.2. THE OBSTACLE TO A GENERAL-LOGICAL ACCOUNT OF THE FORM OF THOUGHT

The inferentialist conception of logical form cannot be maintained. An exposition of the deductive order of thought is not a complete account of its inner articulation. General logic does not possess the means to comprehend the form of thought and to expound the content of the categories. We see this when we attend to the fact that thought as such represents an object. (Here we are using “object” in Kant’s sense, not in Frege’s.)

A form of thought gives rise to a category, which characterizes an object as such as to be thought according to this form. Therefore, as Kant puts it, we describe the same function of the intellect when we describe the form of thought and when we describe the category (B 104–5). However, considering the category, we consider the intellect under a certain aspect: we reflect on the fact that, as thinking is representing an object, forms of thinking are forms of representing an object. As a form of representing an object, a form of thinking *determines the object*: an object thought according to a certain form is represented, being thought in this way, as such as to be thought in this way. Thinking an object according to a form is determining the object as being such as to be represented according to this form. The category contains this determination: it contains what, and only what, is true of the object in virtue of its being such as to be represented according to the form of thought. So, in the category, we think the determination of the object by the form of thinking it.

This applies to Frege’s categories: the concepts of Fregean object and concept contain the determination of the object (in Kant’s sense) by the forms of thought that the concept-script exhibits. Statements whose truth depends only on the validity of the laws of logic articulate this determination, as they state what holds of Fregean objects and concepts as such.<sup>4</sup> That is, they say what holds of the object (in Kant’s sense) in virtue of its being articulated in this way, in virtue of its being such as to be thought according to the elementary form of thought represented by the concept-script.

Thinking of it as category, we consider the form of thought as a determination of the object. And this is how we must consider it, if we are to give a complete account of it. As thinking is representing an object, we have no complete understanding of the form of thought until we see how it can be a form of representing an object, and this is, how the category can determine the object. A complete account of logical form reveals the form of thought to be a source of knowledge. We shall see that this entails that general logic cannot attain to a complete account of logical form.

In the case of theoretical thought, to which we confine ourselves here, the object thought exists independently of being thought. Therefore the object can be thought only if it affects the subject, affects her in such a way as to be represented by her. Thinking an independent object depends on a receptive representation of the object. The object of theoretical thought is something given through the senses or, in Kant’s terminology, a sensory intuition. Hence, as the intellect determines the

object, thinking it according to a certain form, it determines what is given through the senses. The category contains the determination of sensory intuition as being such as to be represented according to the form of thought. This is Kant's explanation of the categories:

Vorher will ich nur noch die Erklärung der Kategorien voranschicken. Sie sind Begriffe von einem Gegenstande überhaupt, dadurch dessen Anschauung in Ansehung einer der logischen Funktionen zu Urteilen als bestimmt angesehen wird. (B 128)<sup>5</sup> Nun sind aber Kategorien nichts andres, als eben diese Funktionen zu urteilen, so fern das Mannigfaltige einer gegebenen Anschauung in Ansehung ihrer bestimmt ist. (B 143)

Categories are not empirical concepts. They do not derive from sensory affection; the intellect supplies them from itself. One applies a category in thinking thoughts of the corresponding form, and as the logical form characterizes thought as thought, one applies the category if thinking it is what one does. Hence, the determination of the object by the category cannot depend on sensations one receives from an object. In Kant's terminology, the category determines the object purely. An exposition of the content of the category articulates pure knowledge of the object affecting one's sensibility, knowledge of the object affecting one's sensibility that yet does not depend on what one receives from the object as it affects one's sensibility.

Frege accepts this. His interest is in mathematics, but the form of thought the concept-script exhibits is to be not only the form of mathematical knowledge, but also the form of empirical knowledge. This means that the intellect determines what is given in intuition as such as to be represented according to that form. The determination is pure: it is pure knowledge of what holds true of what is given through the senses in virtue of its falling under the Fregean categories.

The inferentialist conception of logical form says that general logic can give a complete account of logical form; it can account for the content of the category. But then it can account for the pure knowledge of the object that is that content. And then general logic is transcendental, as Kant defines the term:

Und hier mache ich eine Anmerkung [ . . . ]: dass nicht jede Erkenntnis a priori, sondern nur die, dadurch wir erkennen, daß und wie gewisse Vorstellungen [ . . . ] a priori angewandt werden, oder möglich sein, transzendental (d. i. die Möglichkeit der Erkenntnis oder der Gebrauch derselben a priori) heißen müsse. (B 80)

Transcendental logic investigates how the intellect is a source of pure knowledge. It shows how the intellect determines its object purely, that is, solely with regard to the form of thought. Hence, the inferentialist conception of logical form denies that there is space for a transcendental logic distinct from general logic; general logic is transcendental. But general logic cannot be transcendental. It cannot explain how the intellect determines the object a priori.

An object given in intuition does not have its origin in the intellect. It exists independently of being thought, while the forms of thought have their origin in the intellect; they are not derived from the object. This makes it hard to see how the

forms of thought can, as Kant puts it, meet the object (B 124). But it is not only hard but impossible to comprehend this, if the form of thought is nothing other than the deductive order of a suitable totality of thoughts. In this case, an account of logical form abstracts from the relation of thought to what is given in sensory intuition and considers only the relations of thoughts among themselves. But if we can give a complete account of a certain character of thought while abstracting from the fact that thoughts represent something given through the senses, then this account will not explain how that character of thought determines the object of the senses. Transcendental logic cannot abstract from the relation of thought to the object, and this is, in theoretical thought, sensory intuition, for it inquires how thought is a priori related to sensory intuition, determining it a priori by its form.

General logic cannot on its own account for the form of thought. It depends on transcendental logic, which is distinct from it, and from which it must receive an account of its topic. For, the intellect is a power to represent objects, and since it cannot represent an object unless it can determine it a priori by its own form, transcendental logic, explaining how the intellect determines the object purely, reveals the ground of the possibility of the intellect, and a fortiori the ground of its general-logical employment (B 131, 137).

### 3. QUINE

#### 3.1. QUINE'S EMPIRICIST ACCOUNT OF LOGICAL FORM

We began our discussion of Frege with a quotation that shows him to think of the laws of logic as laws that govern thought as such and thus define the intellect. Then the forms of thought and the categories, having their source in these laws, are not received from the object; rather, the intellect supplies them from itself. And then the form of thought must determine the object a priori, if it is to be possible to represent the object according to this form, and this is, if it is to be thought of which this form is the form, for thought is a manner of representing the object. This in turn entails that general logic cannot give a complete account of logical form. For, abstracting from the relation of thought to the object and attending only to relations thoughts bear among themselves, general logic cannot explain how the intellect determines the object a priori.

Now, we can hold on to the idea that laws of inference are the principle of logical form and deny that we need a transcendental logic distinct from general logic in order to understand the possibility of the latter, if we deny that the intellect determines the object a priori by its form. And this we can deny if we reject the idea that the intellect supplies the form of thought from itself. We must hold, then, that there is no such thing as laws of logic as Frege understands them. There are no laws that govern thought as thought, and thought as thought bears no form at all.

This is the view of W. V. O. Quine. He argues that the categories of Fregean object and concept are introduced as a suitable inferential order is imposed upon a given totality of sentences. This order does not characterize thought as thought, but is an empirical hypothesis. It follows that forms of thought and categories, conceived in the inferentialist way, do not determine the object a priori, but on the basis of sensation. It will help briefly to sketch how, according to Quine, logical form is an empirical hypothesis.<sup>6</sup>

At the fundamental level of language and thought, there are observation sentences, sentences that a differential responsive disposition ties to certain stimuli: a speaker assents to the sentence when and only when she receives stimuli of a certain sort; she dissents from the sentence when and only when she receives stimuli of a certain other sort. Then observation sentences are conjoined by the connective “\_\_ whenever \_\_” to yield observation categoricals. An observation categorical expresses the speaker’s association of the stimuli connected with the observation sentences it conjoins; it expresses her having come to expect to suffer a certain kind of stimulus when she suffers a certain other kind.<sup>7</sup> An observation categorical no longer directly expresses what is given to the senses; acceptance or rejection of it does not depend on current stimuli. It is an empirical hypothesis, which is corroborated by stimuli if, in the past, stimuli that cause assent to the one observation sentence often concurred with stimuli that cause assent to the other. Next, inferential relations are imposed upon observation categoricals. We can think of these as made explicit in conditionals; then imposing them takes the form of assenting to suitable compound sentences. Inferential relations, or compound sentences expressing them, go beyond what is given to the senses. They are corroborated if they yield corroborated observation categoricals. In a fourth step, a certain structure is imposed on these inferential relations, the structure represented by the predicate calculus. Again, this form exceeds the testimony of the senses. It is a very general hypothesis, corroborated if and to the extent that it licenses corroborated observation categoricals. In this way, the deductive order that constitutes the articulation of thoughts caught up in this order is not supplied by the intellect from itself. It is received from the object in the sense that its validity of the object is a hypothesis, which is corroborated as it yields observation categoricals corroborated by stimuli tied to observation sentences conjoined in these categoricals.

Quine saves the inferentialist conception of logical form by denying that thought as thought bears any form. On the fundamental level, thinking a thought is using an observation sentence, and observation sentences as such, that is, insofar as assent and dissent to them is prompted by stimuli from a certain range, are not articulated. Their articulation comes from above, from an order that links observation categoricals according to laws of inference. This order, and with it the form of thought to which it gives rise—for example, the articulation of its object into Fregean object and concept—is an empirical hypothesis. It is corroborated by stimuli without circularity because the nexus of observation sentences with stimuli is independent of the hypothesis.

### 3.2. THE FAILURE OF QUINE'S ACCOUNT

Quine supposes that acts of using observation sentences are judgments. But this is false. A judgment, as such, is correct or incorrect; the peculiar kind of this correctness earns it a special name, "truth." The correctness, truth, of a judgment does not depend on who made it and when and where. Moreover, this correctness is such that she who judges conceives of her judgment as correct in this manner. That is, the power of judgment supplies its subject with this idea of correctness. (Frege expressed this insight by saying that any thinker as such is familiar with two objects: the true and the false.<sup>8</sup>) If we connect this with the first point, it follows that, in judging, I represent my judgment as an act in which any judging subject anywhere and anytime is to join me. I judge for everyone. Another way of describing the kind of correctness that pertains to judgment is saying that it depends, not on who made the judgment and where and when, but on how things stand with its object. These are two ways of describing the same character of judgment: valid for everyone, and valid of the object. I reach out to the object reaching out to everyone and I reach out to everyone reaching out to the object.

An act of using an observation sentence lacks this character of judgment. Even holding time and place constant, when I use a certain observation sentence then and there, it is not necessary that another subject is prompted to use the same observation sentence, or that, if she is not, she is using the sentence she is prompted to use incorrectly. When indeed another subject is prompted to use the same sentence as I am using, then this will have an empirical explanation. (Perhaps it is explained by the fact that we have undergone the same linguistic training. Of course, whether, conceived in this way, the training merits the title "linguistic," is the point at issue.) The explanation will be empirical, that is, the subject cannot reach it by reflecting on the nature of her act. An act of using an observation sentence does not supply its subject with the notion of a unity of subjects bound to the same standard; equivalently, it does not supply the subject with the notion of an object of which the act is valid. This proves that the act is no judgment.

One might try saying that an act of using an observation sentence becomes a judgment when observation sentences are joined in observation categoricals. But as Quine explains, an observation categorical expresses the subject's habit to associate stimuli tied to the sentences it joins. It will not be necessary that, but require an empirical explanation if subjects are in agreement with regard to these habits.

Perhaps using an observation sentence becomes judging when observation categoricals are joined by inferential relations. But terms of inferential relations are judgments. Until we have established that an act of using an observation categorical is a judgment, we cannot say that relations among them are inferential. We must describe the relations (which are to turn out to be inferential relations as their terms turn out to be judgments) in a way that leaves it open whether their terms are judgments. But then these acts figure in these relations at best as acts of sensibility, responses to stimuli.

In Quine's theory judgment nowhere appears. Using an observation sentence is not judging; therefore neither is any act further up that joins and integrates observation sentences. Of course one may claim that there is no such thing as judgment; there is nothing that answers to its formal description: an act that is, and is understood by its subject to be, valid of an object, or, equivalently, valid for any subject. But claiming this is denying a reality of human life, denying it because one finds oneself incapable of comprehending its possibility, which is a fallacious manner of reasoning. However, this is true: we do not understand the possibility of the intellect as long as we do not comprehend how it can determine its object a priori. For, the possibility of the intellect depends on its power to think the object purely, its power to yield pure knowledge of the object.

#### 4. KANT

If the intellect determines the object—and this is, what is given in sensory intuition—a priori, then the sensibility of a thinker is *always already* determined by the form of thought, and what is given in sensory intuition as such bears the unity expressed by the category. Hence, transcendental logic, explaining how the intellect thinks the object purely, renounces the empiricist notion that logical articulation is external to the deliverances of our sensibility. At the same time, it rejects the inferentialist conception of logical form, which seeks its principle in relations of thoughts among themselves. By contrast, transcendental logic describes the form of thought as the manner in which it relates, and thus relates purely, to the object.

Kant divides the Transcendental Logic into the Analytic of Concepts and the Analytic of Principles. The former shows how the category determines a priori what is given in intuition, while the latter develops the pure knowledge that springs from this determination. The heart of the Analytic of Concepts, the Transcendental Deduction, is again divided into two parts. The first shows that the category is nothing other than the pure concept of an object of thought given through the senses; the second shows that the category, the pure concept of an object of thought given in intuition, applies to the deliverances of our sensibility. I shall first give an account of the Deduction, then explain how it treats the form of thought as a manner of relating to an object.

##### 4.1. THE DEDUCTION

The first part of the deduction applies a general thought of Aristotle's *De Anima*, that there is an inner unity of an act of the soul and its object by which the latter is the kind of thing to be an object of an act of this kind. Kant applies this to judgment: the intellect determines its object as the kind of thing that can be an object of that kind of act. We already encountered the relevant character of judgment in the discussion of Quine. A judgment is capable of a special kind of correctness: it

is correct independently of who is its subject, and it is put forth by its subject as thus correct. A subject, in judging, represents herself as *the* judging subject; in judging, she assumes the place of everyone. We describe the same character of judgment when we say that the subject conceives of her judgment as representing an object. Now, the power of judgment supplies its subject with this conception of judgment. So this conception is not received from the object of the act, but *contained in the nature of the act*. It is contained in the form of judgment. Hence, the most general description of the form of judgment, of the way of joining elements in a judgment, is that joining elements in this way is representing an object. The unity of judgment is the unity by which it represents, and is conceived as representing, an object. It is the objective unity of apperception.

Wenn ich aber die Beziehung gegebener Erkenntnisse in einem Urteil genauer untersuche, [ . . . ] so finde ich, daß ein Urteil nichts anderes sei, als die Art, gegebene Erkenntnisse zur objektiven Einheit der Apperzeption zu bringen. [ . . . ] Dadurch allein wird aus diesem Verhältnisse ein Urteil, d. i. ein Verhältnis, das objektiv gültig ist. (B 141–42)

The categories determine the object with regard to this unity, the objective unity of apperception. It follows that they characterize the object as such as to be an object of an act that has the character of judgment: an act universally, or objectively, valid, conceived by its subject as so valid. Therefore, there is no room for doubting that the object of which we seek knowledge falls under the categories. Something not under the categories is, at best, an object of a lower faculty, a faculty that does not yield acts that are, and are put forth by its subject as, universally, or objectively, valid. Something not under the categories is not an object *for the subject* in the way in which the object of a judgment is: being understood by her as that of which the act is valid, or as that in relating to which she is joined to any subject.<sup>9</sup>

This is the first part of the Deduction. It is only a first part because, although it shows that intuitions that present the intellect with an object as such fall under the categories, it does not yet show that our sensory intuitions present the intellect with an object, as they must if there is such a thing as the intellect in us. The first part of the deduction does not yet show this because it abstracts from the manner in which something is given to us through the senses. It abstracts from our form of intuition.

Im obigen Satz ist also der Anfang einer Deduktion der reinen Verstandesbegriffe gemacht, in welcher ich, da die Kategorien unabhängig von der Sinnlichkeit bloß im Verstande entspringen, noch von der Art, wie das Mannigfaltige zu einer empirischen Anschauung gegeben werde, abstrahieren mußte, um nur auf die Einheit, die in die Anschauung vermittle der Kategorie durch den Verstand hinzukommt, zu sehen. In der Folge (§ 26) wird aus der Art, wie in der Sinnlichkeit die empirische Anschauung gegeben ist, gezeigt werden, daß die Einheit derselben keine andere sei, als welche die Kategorie nach dem vorigen § 20 dem Mannigfaltigen einer gegebenen Anschauung überhaupt vorschreibt,

und dadurch also, daß ihre Gültigkeit a priori in Ansehung aller Gegenstände unserer Sinne erklärt wird, die Absicht der Deduktion allererst völlig erreicht werden. (B 144–45)

If our intellect is to think purely what is given to us in sensory intuition, then our sensibility must give it something to think purely. Our sensory intuitions must contain something that can be thought purely. This cannot be the sensations that one suffers being affected by the object, for then the determination would not be pure. What is given to the intellect as something that can be thought purely must be supplied by our faculty of sensibility itself; it must be something that is contained in any intuition in virtue of its being an act of this faculty. Kant calls this the form of intuition.

Weil in uns aber eine gewisse der Form der Anschauung a priori zum Grunde liegt [ . . . ] so kann der Verstand [ . . . ] den inneren Sinn durch das Mannigfaltige gegebener Vorstellungen der synthetischen Einheit der Apperzeption gemäß bestimmen. (B 150)

*The form of intuition is that by virtue of which intuitions can be thought purely.* As Kant says: the intellect can determine a priori our sensibility *because* our intuition bears a certain form. We may call what is thought when intuitions are thought purely, the content of the pure thinking of intuitions, a *pure intuition*. This is how Kant employs these terms: form of intuition and formal, or pure, intuition.

Der Raum, als Gegenstand vorgestellt [...] enthält mehr, als bloße Form der Anschauung, nämlich Zusammenfassung des Mannigfaltigen, nach der Form der Sinnlichkeit Gegebenen, in eine anschauliche Vorstellung, so daß die Form der Anschauung bloß Mannigfaltiges, die formale Anschauung aber Einheit der Vorstellung gibt. Diese Einheit hatte ich in der Ästhetik bloß zur Sinnlichkeit gezählt, um nur zu bemerken, daß sie vor allem Begriffe vorhergehe, ob sie zwar eine Synthesis, die nicht den Sinnen angehört, durch welche aber alle Begriffe vom Raum und der Zeit zuerst möglich werden, voraussetzt. Denn da durch sie (indem der Verstand die Sinnlichkeit bestimmt) der Raum und die Zeit als Anschauungen zuerst gegeben werden, so gehört die Einheit dieser Anschauung a priori zum Raum und der Zeit, und nicht zum Begriff des Verstandes. (B 161, fn.)

Space and time, pure intuitions, are given as the intellect, applying the categories to our sensibility, determines it purely. Independently of this application of the pure concepts to what is given in intuition, no pure intuition is given, for a *pure intuition is what is thought when what is given in intuition is thought purely*. Therefore, although the unity of the pure intuition requires the application of the categories to sensory intuition, this unity does not belong with the concept of the intellect. It is the content of the categories, which the intellect does not supply from itself, but receives as our sensibility gives it something it can think purely.

The intellect can determine our intuitions a priori because they present it with something to think purely, their form. Therefore, there is no room for asking

whether a given intuition might fail to fall under the category. The category determines intuitions purely, that is, independently of their matter. Hence, the idea that the category determines some of our intuitions, but not others, is incoherent; these intuitions could be distinguished only by their matter, on which the applicability of the category cannot depend. Our intuitions can be determined purely with regard to their form, which does not depend on sensation. This completes the transcendental deduction.

Our account of the Deduction might invite the following objection: We said in the first section that the category determines the object solely *with regard to the form of thought*. Now we say that, in its application to our sensibility, the category determines what is given in intuition solely *with regard to the form of intuition*, that is, solely with regard to their being in time. Are we confusing the form of thought with the form of intuition? No. We are saying that, since thinking purely what is given in intuition is thinking it with regard to its form, the form of thought in its application to our sensibility is nothing but the form of our intuitions, in saying which we are echoing Kant.

In der Folge wird aus der Art, wie in der Sinnlichkeit die empirische Anschauung gegeben wird, gezeigt werden, daß die Einheit derselben keine andere sei, als welche die Kategorie nach dem vorigen § 20 dem Mannigfaltigen einer gegebenen Anschauung überhaupt vorschreibt. (B 144–45)

A pure determination of sensory intuitions determines them solely with regard to their form. In our case, this form is time. Thinking sensory intuitions purely, we think them only with regard to their being temporal; we deploy a *pure concept of something in time*. The pure concept of something in time is the content the category acquires in its application to our intuitions. Kant calls the category, so applied, the schema. As the category, applied to our intuition, acquires a determinate content, the form of thought acquires a determinate character. It is the form of thinking the temporal in the sense that what is thought according to this form is, in virtue of being so thought, represented as temporal.

#### 4.2. THE FORM OF THOUGHT AS THE MANNER IN WHICH IT RELATES TO THE OBJECT

We can now see the Transcendental Logic developing a conception of logical form that seeks its principle not in the relations thoughts bear among themselves, but in the relation of thought to the object. It is not that the inferentialist conception denies that the intellect is a power to represent the object. It denies that the relation of thought to the object is the source of its form. An account of the form of thought abstracts from its relation to the object. Of course the object, being thought, exhibits this form. But this is a second thought, that we come to think only after we have explained logical form. Now, thinking of the intellect in this way makes it impossible to understand how it can determine a priori an object that exists independently of being thought.<sup>10</sup> If the relation of thought to the object is introduced

only after its form has been explained, then it is too late: then the form of thought cannot be shown to be the form of the object. But then we do not understand the very possibility of the intellect as a power to represent the object. So we must explain logical form *as* a manner of relating to the object. Then it is not a second thought that the form of thought determines the object, but that is contained in the account of logical form.

In § 10, Kant draws attention to the fact that the form of judgment determines the object given in intuition. The category contains that determination: “Dieselbe Funktion, welche verschiedenen Vorstellungen in einem Urteile Einheit gibt, die gibt auch der bloßen Synthesis verschiedener Vorstellungen in einer Anschauung Einheit, welche, allgemein ausgedrückt, der reine Verstandesbegriff heißt.” (B 104–5) As Kant puts it later, the categories *are* the forms of judgment insofar as what is given in sensory intuition is determined in respect of them.<sup>11</sup> This makes it clear that an account of the form of judgment cannot attend only to relations thoughts bear among themselves. It is true, forms of judgment appear in general logic, and we first find them there. But this does not mean that general logic can by its own means explain what the form of judgment is.

In § 19, Kant writes:

Ich habe mich niemals durch die Erklärung, welche die Logiker von einem Urteile überhaupt geben, befriedigen können: es ist, wie sie sagen, die Vorstellung eines Verhältnisses zwischen zwei Begriffen. [Ich] merke [ . . . ] nur an, daß, worin dieses Verhältnis bestehe, hier nicht bestimmt ist. Wenn ich aber die Beziehung gegebener Erkenntnisse in jedem Urteile genauer untersuche, und sie, als dem Verstande angehörige, von dem Verhältnis nach Gesetzen der reproduktiven Einbildungskraft [ . . . ] unterscheide, so finde ich, daß ein Urteil nichts anderes sei, als die Art, gegebene Erkenntnisse zur objektiven Einheit der Apperzeption zu bringen.” (B 140–41)

The logicians here are general logicians. They can give no satisfactory account of the form of judgment. At best they could say, as Robert Brandom does in *Making It Explicit*, that the unity of a judgment is the unity of what can be a premise and a conclusion of an inference. But this answer is unsatisfactory, for it opens up no path to an account of how what is given in intuition can be determined a priori by the form of judgment. Instead, the form of judgment must be the unity by virtue of which judgment relates to the object in the manner that defines the intellect and distinguishes it from lower powers of representation (“wenn ich sie, *als dem Verstande angehörige*, unterscheide”). Kant identifies the form of judgment with its relation to the object.

There is a further step. According to Kant, the intellect cannot relate to the object immediately, but only through representations that spring from a receptive faculty. The relation of thought to the object is its relation to what is represented in acts of such a faculty. Hence, an account of the form of thought that reveals it to be the way in which it relates to the object is an account of the form by which it relates to what is represented in acts of a receptive faculty. Again, it must not be a second

thought that what is given in acts of the receptive faculty in question is thought according to a form that on its part is explained independently. Rather, that must transpire from the account of that form. As what is given in acts of our receptive faculty as such is temporal, a complete account of logical form reveals it to be the form of thinking the temporal, where “the temporal” does not signify a matter that is thought according to this form, but describes the form as form.

If the form of thought, as it applies itself to the deliverances of our sensibility, is the form of thinking the temporal, then this explains how the intellect is a power of pure knowledge. In thinking intuitions purely, we deploy the pure concept of something in time. Articulating what this concept contains, we say what holds true of an object in virtue of being temporal. We develop the pure knowledge of what is given in our sensory intuition, whose form is time.<sup>12</sup> This depends on the fact that “the temporal” specifies the form of thought as form. If, in “form of thinking the temporal” or “pure concept of the temporal,” “the temporal” specified a matter that is thought according to a certain form and brought under the corresponding category, then we would know that the intellect must determine the temporal a priori by its form, but our conception of logical form would not show how this can be.

If the intellect is possible at all, then it purely determines the object according to its form. Hence, a description of the form of thought that reveals the ground of the possibility of the intellect reveals it to be a manner of relating to the object. Kant aims to give such a description: as the intellect determines sensibility a priori, the category acquires a specific content, or the form of thought a specific character. The content is the pure concept of something in time; the form is the form of thinking the temporal. Since the intellect relates to the object only through acts of a distinct faculty, the character of logical form as a manner of relating to the object is not provided by the intellect alone, but only through its a priori relation to this distinct faculty, which further entails that the intellect is not the complete ground of its own possibility. One may be critical of this manner of carrying out the task of transcendental logic. Hegel attacks Kant for thinking of the intellect as impotent in this way. Here is not the place to discuss his criticism, or to consider the transformation transcendental logic undergoes when it develops the form of thought as its relation to the object without appealing to an independent faculty of intuition.<sup>13</sup> Our interest is in the point Hegel takes over from Kant, that an account of logical form cannot be provided by general logic alone. For, the form of thought must be shown to determine the object a priori, which it can be shown to do only if this form is understood to be a relation to the object.

## 5. THE FIRST ANALOGY

When we describe the form of thought in its application to intuitions whose form is time, that is, when we articulate the content of the category in this application, the pure concept of something in time, then we develop the pure knowledge that

arises from the a priori determination of our sensibility by the intellect. The Principles of the Understanding, the most fundamental pure synthetic propositions, describe the object with regard to a form of thinking: they say what we know of the object thinking it according to this form. The relevant form is not the form of thought as described by general logic, in abstraction from the relation of thought to an object. It is the form of thinking sensory intuitions, in our case the form of thinking the temporal. In the Principles, the relation of thought to what is in time is exhibited as a principle of its form. We show this in an exemplary fashion by reading the First Analogy.

#### 5.1. THE EPISTEMOLOGICAL INTERPRETATION

The Analogies describe the form of thinking by which something is represented as temporal, a logical form that lies outside the purview of general logic because it cannot be explained in terms of inferential relations. Now, we said contemporary Kant exegesis approaches the text unconsciously relying on the inferentialist conception of logical form. In consequence, its interpretation of the Analogies goes awry because it lacks the concept of their topic: the form of thought of the temporal.

According to the usual reading, the Analogies show how we can ascertain temporal relations of what is given in sensory intuition. Béatrice Longuenesse explains why this would seem difficult:

Kant's reasoning concerning the role of the category of substance in our perception of objective temporal relations is most explicit in the second paragraph of the First Analogy in A. The paragraph opens with a reminder of the ever successive character of our apprehension, which makes impossible any direct perception of objective simultaneity or succession. By thus breaking the deceptive familiarity of temporal relations, [...]. We believe that we perceive the succession or simultaneity of the states of things. Actually, all we perceive (apprehend) is the succession of our representations, whereas the simultaneity and succession in states of things are not directly perceived. (*Kant and the Capacity to Judge*, 334–35.) All we perceive is the subjective succession of our perceptions. (Ibid., fn.)

Kant is said to hold that we cannot perceive that one thing is simultaneous with or succeeds another. Of course, nothing is more familiar: I heard the French horn coming in simultaneously with the clarinet, and I saw Petacchi crossing the finish line before Zabel. But Longuenesse tells us that this familiarity is deceptive and that Kant saw through it. We believe that we perceive succession or simultaneity, but in truth we do not. Now indeed, if we cannot perceive that one thing is simultaneous with or succeeds another, it is hard to see how we could know this. What if not perception could be the source of such knowledge? Longuenesse answers:

The representation we have of objective simultaneity and succession is the result of the way we interpret the succession of perceptions in our apprehension. Now this interpretation, together with the resulting dis-

inction between simultaneous and successive, is possible only if we relate the representations we apprehend successively to a permanent substratum. (Ibid., 335)

There is direct and there is indirect perception. We directly perceive the succession of our perceptions. On this basis, we cannot determine the temporal relations of what we perceive; in order to do that, we must go beyond what we perceive. So we do, interpreting our perceptions according to certain principles, thereby fixing temporal relations of what we perceive, which thus we perceive indirectly, by way of the interpretation. The Analogies are the principles that govern this interpretation. For example, the First Analogy tells us to interpret our perceptions as belonging to a permanent substratum. When we interpret our perceptions in this way, we indirectly perceive the substratum.

Paul Guyer propounds the same reading.

So the fact that the represented states of affairs succeed one another in a determinate order [...] cannot be inferred from the successive occurrence of the representations of those states of affairs. [...] The underlying premise of Kant's argument, then, is precisely that [...] objective temporal relations are not simply given in passive apprehension. [...] But the temporal order of the objective states of affairs cannot be determined by any direct access to the objects either, for it is of course only *by* the representations that the objects are given.

So Kant's idea is that no alternative remains but that the occurrence of an event be inferred by *adding* to the omnipresent succession of mere representations a *rule* from which it can be inferred that in the circumstances at hand *one state of affairs could* only succeed the other. (*Kant and the Claims of Knowledge*, 244 and 248)

Guyer explains that from the succession of our perceptions we cannot infer the temporal relations of what we perceive. Evidently he supposes that we do not perceive these relations; if we did, there would be no need to infer them. However, the inference would not be possible, did we not deploy certain rules that constrain its conclusion. The Analogies are these rules.

Even without confronting this interpretation with the text, we know it is false, for it makes it a mystery how Kant could have thought that the Analogies articulate knowledge of the object, as opposed to habits of the subject. Suppose there are principles by means of which we derive from the order of our perceptions a certain other order of these perceptions. This derived order is objective and is the temporal sequence of the objects we perceive only if the principles in question are necessarily true of the objects we perceive. But according to the given reading, this cannot be shown. It is *not* shown by saying that only through these principles can we determine an objective temporal order. For the question is why that order should merit the title "objective."

The usual reading thus finds it difficult to distinguish Kant's position from Hume's. Longuenesse describes the difference as follows:

Kant's description of the 'permanence of the real in time' as the result of a synthesis of imagination is certainly reminiscent of Hume's argument to the effect that the idea of substance [...] is a concoction of imagination. Yet Kant reverses Hume's skeptical view in two respects. First, he defines the transcendental synthesis of imagination as an "effect of the understanding on sensibility," and thus defines the relation between substance and accident in appearances not merely as the result of the empirical associations of imagination, but also as the result, first and foremost, of an a priori rule of synthesis guiding these associations in order to reflect them under concepts according to the logical form of categorical judgments. Second, Kant argues that the presupposition of a permanent substratum of transitory determinations is itself not a result [...], but a *condition* for perceiving the objective change as well as the objective simultaneity of sensible qualities that is, a condition for precisely those temporal relations no skeptic has put into doubt. (*Kant and the Capacity to Judge*, 334)

Longuenesse says that Kant "defines" the transcendental synthesis of the imagination as an "effect of the understanding on sensibility." But it is no good to define it thus and go on and describe it in a way that shows it to be "the result of the empirical associations of imagination." Further, she says that Kant shows that "the presupposition of a permanent substratum of transitory determinations" is a condition "for perceiving the objective change as well as the objective simultaneity of sensible qualities," which she thinks are "precisely those temporal relations no skeptic has put into doubt." However, without the "presupposition" of substance, no sense can be given to the notion of objective change of sensible qualities. By Hume's lights, the notion of an objective change of qualities distinct from a succession of impressions is every bit a reflection of habits of association as the concept of substance itself. Objective change of sensible qualities is precisely the temporal relation the skeptic has put into doubt.

According to the usual interpretation, the Analogies show how we can know that one thing is simultaneous with or succeeds another, given that we cannot perceive this. If there were such a question, it would be intractable. Nothing could answer it, a fortiori not the Analogies. But there is no reason to think that the Analogies address this question. Kant says repeatedly and unequivocally that we perceive that things are simultaneous with or succeed one another. For example, the Transcendental Aesthetic argues that the form of intuition is time, that is, what is given in intuition, as so given, is represented as standing in temporal relations.<sup>14</sup> One argument to this effect is the following:

Die Zeit ist kein empirischer Begriff, der irgend von einer Erfahrung abgezogen worden. Denn das Zugleichsein oder Aufeinanderfolgen würde selbst nicht in die Wahrnehmung kommen, wenn die Vorstellung der Zeit nicht a priori zum Grunde läge. Nur unter deren Voraussetzung kann man sich vorstellen: daß einiges zu einer und derselben Zeit (zugleich) oder in verschiedenen Zeiten (nach einander) sei. (A 30/B 46)

Kant says we could not perceive that things are simultaneous with or succeed one another—simultaneity and succession would not enter into perception, that is,

would not be perceived—if we did not already represent time. He infers that the representation of time is provided by the form of our intuition. So Kant argues: X, because only if X can we perceive that things are simultaneous with or succeed one another. Such an argument could not be made by someone who thought that we cannot perceive that things are simultaneous with or succeed one another.

Not only the presupposition of the question that the usual reading assigns to the Analogies, but also the answer to this question it claims to find there is contradicted by the text. According to the usual reading, we do not directly perceive that things stand in temporal relations; we indirectly perceive this as we interpret our perceptions and draw inferences from them. For example, we interpret our perceptions as belonging to a substance. We do not perceive this substance; the substance is a construction of an interpretation, or the conclusion of an inference. But the text says:

Folglich muß in den Gegenständen der Wahrnehmung, d.i. in den Erscheinungen, das Substrat anzutreffen sein, welches die Zeit überhaupt vorstellt. [ . . . ] Es ist aber das Substrat alles Realen [...] die Substanz. (B 225)

Kant does not say, we must be able to infer from our perceptions a substance to which they belong. He says, we must be able to *encounter* the substance *among the objects of perception*.

The usual reading sees the Analogies addressing a difficulty that does not exist, not according to Kant; it interprets the Analogies as giving an answer that, if the difficulty existed, would not solve it; and this alleged answer contradicts the text. This interpretive failure requires an explanation. The explanation is that the interpreters invent an imaginary topic for the Analogies because they lack the concept of their true topic.

## 5.2 THE LOGICAL INTERPRETATION

The topic of the Analogies is not epistemological: they do not ask how we can know that things stand in certain temporal relations. They have a logical topic, as befits a part of the transcendental logic: they describe the logical articulation by which thought represents something as temporal, that is, as the kind of thing that stands in temporal relations. The question is not how we find out that a thought of the following kind is true: “\_\_ and then \_\_,” or, “\_\_ while at the same time \_\_.” The question is what is the logical form of a thought that can fill the blanks in these schemata.

The Deduction showed that the intellect determines the object given through the senses, thinking it purely with regard to its form, which in our case is time. As the form of our intuition is time, the form of thinking an object, applied to our intuitions, is the form of thinking the temporal. This describes it as form: what is thought according to this form is, in virtue of being so thought, represented as temporal. The Analogies say what we know of an object, thinking it through this form.

The First Analogy reads as follows:

Alle Erscheinungen enthalten das Beharrliche (Substanz) als den Gegenstand selbst, und das Wandelbare, als dessen bloße Bestimmung, d. i. als eine Art, wie der Gegenstand existiert. (A 182)

All appearances contain two elements: something that persists and something that changes. More precisely, all appearances contain what persists *as the thing* and what can change *as a way in which the thing exists*. Kant calls the persisting thing a *substance* and its changing determination a *state*. So the necessary articulation of appearances, of what is given in intuition, is *a form of predication*: its elements are a thing and how this thing is (A187/B 230). Here is Kant's proof of this theorem.

(1) Alle Erscheinungen sind in der Zeit, in welcher, als Substrat [...] das Zugleichsein sowohl als die Folge allein vorgestellt werden kann. (2) Die Zeit also, in der aller Wechsel der Erscheinungen gedacht werden soll, bleibt und wechselt nicht; weil sie dasjenige ist, in welchem das Nacheinander- oder Zugleichsein nur als Bestimmungen derselben vorgestellt werden können. (3) Nun kann die Zeit für sich nicht wahrgenommen werden. (4) Folglich muß in den Gegenständen der Wahrnehmung, d.i. in den Erscheinungen, das Substrat anzutreffen sein, welches die Zeit überhaupt vorstellt, und an dem aller Wechsel oder Zugleichsein durch das Verhältnis der Erscheinungen zu demselben in der Apprehension wahrgenommen werden kann. (5) Es ist aber das Substrat alles Realen [...] die Substanz, an welcher alles, was zum Dasein gehört, nur als Bestimmung kann gedacht werden. (B 224–25, my numbers.)

Let us go through the proof sentence by sentence. (1) Kant recalls a claim of the Transcendental Aesthetic, that the representation of time precedes the representation of temporal relations because, as Kant puts it in *De mundi sensibilis atque intelligibilis forma et principiis*, “*post se invicem [sunt], quae existunt temporibus diversis, quemadmodum simul sunt, quae existunt tempore eodem,*” so that “*quid significet vocula post, non intellego, nisi praevio iam temporis conceptu.*”<sup>15</sup> Being after one another is being at different times; being simultaneous is being at the same time. We can understand this as follows. I do not perceive that *A* is after *B* simply by first perceiving *A* and then perceiving *B*. A sequence of perceptions is not the perception of a sequence. One may represent the members of a sequence without representing their sequence, that is, the unity of the members. In the case of a temporal sequence, the relevant unity is the unity of time: I represent a temporal sequence only if I represent its members as being in time. It follows that a thought that represents its object as temporal must be articulated; it must distinguish a time from what is at this time.

(2) If one thing succeeds another, they exist at different times, and if two things are simultaneous, they exist at the same time. Kant goes on to say that therefore these things—terms of temporal relations—are represented in time as *determinations of time*. A term *A* of a temporal relation is at a time  $t_i$ , and hence is in time. But then *A* determines time in the sense that it determines that part of it,  $t_i$ . Hence, the logical form of a temporal thought appears to be “*A exists in  $t_i$ ,*” or “*A at  $t_i$ ,*” or “*At<sub>*i*</sub>.*”

(3) But this is impossible. For time itself cannot be perceived. When one perceives how things are at a certain time, one does not perceive that time. A name of the form “ $t_i$ ” does not refer to something given in intuition. The use of such names is the result of theory and not part of the basic form of expression of what is given through the senses.

(4) Terms of temporal relations are determinations of time. But one cannot represent something as a determination of a time by referring to this time and bringing it under that determination, “ $At_i$ .” How then is something represented as being at a time? Kant answers that what is given in intuition—appearances—as such contain something that represents time in the sense that *something is conceived as a determination of time in virtue of being apprehended as a determination of it*. Apprehending  $A$  and  $B$  as determinations of this thing, we apprehend  $A$  and  $B$  as succeeding, or as simultaneous with, one another.

(5) Kant says all appearances contain an item such that other things are perceived as being temporally related through the relation they bear to it *in the apprehension*. A relation in the apprehension is a *logical relation*, not a real relation; it constitutes the unity of a thought, and is not an element of a thought. It is the unity of a thing and its determinations. So what is given in intuition or what is real insofar as it is capable of standing in temporal relations is a determination of something we encounter in intuition as well, and which is called “substance.” We perceive that  $A$  succeeds or is simultaneous with  $B$ , as we apprehend  $A$  and  $B$  as determinations of time. And we apprehend  $A$  and  $B$  as determinations of time, not by predicating  $A$  and  $B$  of a time as in “ $At_1$  and  $Bt_2$ ,” but by predicating  $A$  and  $B$  of a substance as in “ $S$  was  $A$  and is  $B$ .” Temporal thought bears a predicative structure. It is not articulated into a time and what is at this time, but rather into a substance and its states. It is in virtue of being thus articulated that a thought distinguishes a time from what is at this time and thus represents its object as temporal. This completes the proof.<sup>16</sup>

Something is conceived as a determination of time as it is represented as a determination of a substance. When two things are linked to one substance as its determinations, they are represented as exhibiting a certain unity, which is a unity of distinct positions in time.

[...] das Beharrliche ist das Substratum der empirischen Vorstellung der Zeit selbst, an welchem alle Zeitbestimmung allein möglich ist. Die Beharrlichkeit drückt überhaupt die Zeit, als das beständige Correlatum alles Daseins der Erscheinungen, alles Wechsels und aller Begleitung aus.  
(A 183/B 226)

The substance represents time empirically, that is, in what is given to the senses. More precisely, the unity of the substance represents the unity of time, because determinations are assigned to a certain time in being said of one substance. A substance can fall first under one and later under a contrary determination. Thus a thought that joins a substance to contrary determinations locates these determinations at different times. It locates the determinations in *one* temporal order because

it is *one* substance that first falls under this, and then under that determination. When we say “S was A and now is B,” we represent the same thing as falling under contrary determinations. But the determinations do not determine distinct things as in “At<sub>1</sub> and Bt<sub>2</sub>,” but one thing. In “At<sub>1</sub> and Bt<sub>2</sub>,” the letter “t” shows that “t<sub>1</sub>” and “t<sub>2</sub>” refer to members of the same sequence. But the things to which “t<sub>1</sub>” and “t<sub>2</sub>” refer, and the unity of these, cannot be perceived. Here nothing satisfies “the condition of the empirical unity of time” (A 188/B 231). By contrast, in “S was A and now is B,” there is no need to connect two things determined by A and B respectively, for there is only one thing, the substance, determined by both. Its unity represents the unity of time. In this way is the “condition of the empirical unity of time” satisfied.

Longuenesse and Guyer think we do not, not directly, perceive that one thing succeeds another. We perceive this indirectly as we interpret the succession of our perceptions in a certain way, as “we relate the representations we apprehend successively to a permanent substratum.” This entails that we do not perceive, do not directly perceive, substances. Now Kant says very plainly that a substance is perceived. It is crucial to his argument that, in contrast to time, a substance is something we perceive. Substance, says Kant, represents time itself *in appearance*.<sup>17</sup>

## 6. THE DEPENDENCE OF GENERAL LOGIC ON TRANSCENDENTAL LOGIC

The intellect is a power to represent objects. If the intellect is defined by a certain form, then the intellect represents an object only if it determines the object a priori by its form. Hence, we do not understand the possibility of the intellect, a power to represent objects, unless we comprehend its power to determine the object a priori.<sup>18</sup> But this we cannot comprehend as long as we conceive of the logical form of thought as the way in which thoughts are related among themselves. As general logic cannot account for the power of the intellect a priori to determine the object, it can give no self-standing account of the form of thought. The form of thought must be the way in which it relates to an object. In its being related to the object we must find the principle of its form. The concept of an object is limited, in theoretical philosophy, to the concept of something given in intuition, which, in our case, is something temporal. Hence, we must reveal its form as the manner in which thought relates to something temporal. The First Analogy does that: “S was/is F” is the form of thought by virtue of which it represents something temporal. The proof of the Analogy shows that this is a form of thinking the temporal, not in the sense that what is thought according to it is in fact temporal, but in the sense that something is represented as temporal as it is thought in this way. Therefore, we have pure knowledge of the temporal, which we articulate when we describe how the object is determined in being thought according to this form.

Since general logic can give no self-standing account of the form of thought, we must turn a common metaphysical practice on its head. Fregean predication is atemporal; therefore, time can appear in the concept-script only as content, “*At*.” But this is not the basic form of temporal thought. A thought is temporal, not in virtue of its elements, but in virtue of the unity of its elements. Time-consciousness is not a content of thought, but a form. It is a form of predication that contains a temporal contrast. It is common to seek to fit temporal thought into a Fregean notation. N. L. Wilson claims that temporal thought bears the form “*x* is<sub>atemporal</sub> *F-at-t*,” while David Lewis argues that temporal thought has the form “*x-at-t* is<sub>atemporal</sub> *F*.”<sup>19</sup> But neither “*x-at-t* is<sub>atemporal</sub> *F*” nor “*x* is<sub>atemporal</sub> *F-at-t*” have anything to do with time unless these formulae represent a thought the more fundamental representation of whose form is “*S was/is F*.” It does not matter whether we represent “*Claudius is bent*” as “*x* is<sub>atemporal</sub> *F-at-t*” or as “*x-at-t* is<sub>atemporal</sub> *F*.” Alleged puzzles about which of these represents the metaphysics of the case are spurious; neither is metaphysically fundamental. Neither lets us see the a priori knowledge of the temporal we have through thinking it.

The elements into which the object is articulated as it is thought according to the form “*S was/is A*” cannot be found among the elements into which it is articulated by “*x* is<sub>atemporal</sub> *F-at-t*” or as “*x-at-t* is<sub>atemporal</sub> *F*.” N. L. Wilson claims that the values of “*x*” in “*x* is<sub>atemporal</sub> *F-at-t*” are substances. But a substance is the subject of changing states, while “is<sub>atemporal</sub> *F-at-t*” designates a Fregean concept, not a changing state. No content can be given to the idea of something’s changing in respect of this determination. In the same way, the values of “*F*” in “*x-at-t* is<sub>atemporal</sub> *F*” are not states, for a state is a determination with regard to which a substance may change. But “*x-at-t*” refers to a Fregean object, not to a substance. No sense attaches to the idea of such a thing’s changing in respect of its determinations.

One may be tempted to represent the logical form of a temporal thought by the formula, “*x* is-at-*t F*.” But this turns the logical copula “is” into a three-place predicate and thus is in effect equivalent to Wilson’s proposal. Although the suggestion leads nowhere, it expresses a dim appreciation that the expression of time consciousness is neither a name, nor a predicate, but their nexus, or the form of predication. But this insight cannot be expressed as long as the predicate calculus is assumed to be the appropriate frame for the representation of the logical form of temporal thought.

General logic can give no self-standing account of the form of thought. The forms it represents are forms of thought only to the extent that they are grounded in the form of thought as transcendental logic expounds it. There is such a grounding for elementary Fregean predication. A temporal thought is articulated into a permanent substance and its changing states. The concepts of substance and state describe a kind of predication, which Frege’s concept-script does not represent; for, the idea of time is not internal to it. However, we can derive the elementary form of thought of the concept-script from the form “*S was/is F*” by abstracting from the temporal contrast. The Fregean form “*Fa*” is not more fundamental than “*S was/is*

*F*”; it is poorer. An exposition of the origin of the Fregean form in a form of thinking the temporal is part of a complete account of this form. Thus, general logic cannot give a complete account of the categories of a Fregean object and a Fregean first-order concept. The complete account represents a Fregean object as an abstraction from a permanent substance and a Fregean first-order concept as an abstraction from a changing state. These latter concepts lie outside the reach of general logic, for they articulate the manner in which thought a priori relates to what is given in sensory intuition.

## NOTES

1. And spatial; but we shall not consider space here.
2. “Der Gedanke,” in Gottlob Frege, *Logische Untersuchungen*, G. Patzig (ed.), Göttingen: Vandenhoeck 1993, 50.
3. As transpires from § 19, Erkenntnisse may be judgments as well as concepts. However, as § 19 also makes clear, general logic attends to the relation of concepts in a judgment only in so far as it is relevant to how the judgment is related to other judgments.
4. Cf. Cora Diamond, “Frege against Fuzz,” 162.
5. Kemp Smith’s translation of this passage is inexplicably inaccurate: “But first I shall introduce a word of explanation in regard to the categories.” Kant does not announce “a word of explanation in regard to the categories,” but *the explanation of the categories*.
6. We follow Quine’s exposition of his view in *The Pursuit of Truth*, chapters 1 and 2.
7. *Pursuit of Truth*, 24: “[An observation categorical is] a generalized expression of expectation.” “Empirical Content,” 26: “A child may learn the component observation sentences ‘Here is smoke’ and ‘Here is fire’ by ostension, and then the compound is an eternal sentence that expresses his having become conditioned to associate the one with the other.”
8. “Jeder Behauptungssatz, in dem es auf die Bedeutung der Wörter ankommt, ist also als Eigenname aufzufassen, und zwar ist seine Bedeutung, falls sie vorhanden ist, entweder das Wahre oder das Falsche. Diese beiden Gegenstände werden von jedem, wenn auch nur stillschweigend, anerkannt, der überhaupt urteilt, der etwas für wahr hält, also auch vom Skeptiker.” (“Sinn und Bedeutung,” in Gottlob Frege, *Funktion, Begriff, Bedeutung*, G. Patzig (ed.), Göttingen: Vandenhoeck 1993, 48.)
9. “Die synthetische Einheit des Bewußtseins ist also eine objektive Bedingung aller Erkenntnis, nicht deren ich bloß selbst bedarf, um ein Objekt zu erkennen, sondern unter der jede Anschauung stehen muß, um für mich Objekt zu werden” (B 137).
10. Of course, we equally do not understand how thinking an object could be the cause of its existence. We neither understand practical nor theoretical thought of an object. But practical thought is not our topic.
11. As quoted above: “Nun sind aber Kategorien nichts andres, als eben diese Funktionen zu urteilen, so fern das Mannigfaltige einer gegebenen Anschauung in Ansehung ihrer bestimmt ist” (B 143).
12. Note that this entails that we know the form of our intuition we know what time and space is to the extent that these words designate the form of our intuition, only through the pure determination of our sensibility by the categories. See the passage quoted above: “[ . . . ] ob sie zwar eine Synthesis, die nicht den Sinnen angehört, durch welche aber alle Begriffe vom Raum und der Zeit zuerst möglich werden, voraussetzt.”
13. See my “Eliminating Externality,” *International Yearbook of German Idealism* 5, 2007.
14. That the form of intuition is time cannot mean merely that acts of intuiting are temporally ordered. It would not follow from this that the *representation* of time is a priori, which according to Kant is a consequence of the fact that time is the form of intuition.

15. §14.1. Compare *Critique of Pure Reason*, A 30/B 46.
16. We disregard the last sentence of the proof (“Da diese also im Dasein nicht wechseln kann, so kann ihr Quantum in der Natur auch weder vermehrt noch vermindert werden.”), which does not pertain to anything stated in the First Analogy in the A-edition. It is a further thought, with its own difficulties, which lie beyond the scope of this essay.
17. Maintaining that Kant believes that we do not perceive substances requires an unusual resistance to textual evidence. Paul Guyer says about the passage, “Die Vorstellung von etwas Beharrlichem im Dasein ist nicht einerlei mit einer beharrlichen Vorstellung; denn diese kann sehr wandelbar und wechselnd sein [...] und bezieht sich doch auf etwas Beharrliches” (BXLIII): “Kant implies that the permanence [...] in empirical objects [...] must be inferred rather than directly perceived” (*Kant and the Claims of Knowledge*, 220). This is not implied. What Kant says is that a representation is of something permanent not by being itself permanent. Upon misreading the passage, Guyer finds it inconsistent with the following annotation of Kant’s on the margins of A 183: “Die Wahrnehmung der Dauer ist nicht durch die Wahrnehmung der einander folgenden Bestimmungen und des Verhältnisses ihrer Reihe zur Zeit möglich, [...] sondern durch etwas, dessen Existenz keine Reihe von Folgen ist, aber diese als seine Bestimmungen in sich schließt, folglich per durabilitatem der Substanz” (AA 23, p. 31). Kant says, the perception of something permanent is possible, not as a perception of the relation of things that succeed one another in time, but only through the perception of a substance that contains them as its determinations. This does not contradict, but explains the passage Guyer misreads: a representation is of something permanent, not by being permanent, but by being articulated in a certain way. A representation of something permanent exhibits a certain kind of unity, the unity represented by the schema “S was/is A.”
18. It is sometimes suggested that the question how we can represent objects at all is deeper than the question how we can know objects a priori. But these are the same question.
19. N. L. Wilson, “Space, Time, and Individuals,” *Journal of Philosophy* 52 (1955): 589–98; David Lewis, *On the Plurality of Worlds* (Oxford: Blackwell, 1986), 202 ff.