

Kant on Logic and the Laws of the Understanding

Matthew Boyle

Like all of our powers [*Kräfte*], *the understanding* in particular is bound in its acts [*Handlungen*] to rules we can investigate. . . . [T]he science that contains these universal and necessary rules is a science merely of the form of our understanding's cognition or of thinking. . . . Now this science of the necessary laws of the understanding and of reason in general, or, which is the same, of the mere form of thinking, we call *logic*.

—KANT, *JÄSCHE LOGIK*, §I (9:11–13)¹ 

¹ Citations to Kant's works are to the volume and page number of the *Akademie Ausgabe* (1902—), except in the case of the first *Critique*, where I follow the usual practice of giving pagination as in the first (“A”) and second (“B”) editions. I use the following abbreviations for other works by Kant:

DWL = *Dohna-Wundlacken Logik*
FS = *Die falsche Spitzfindigkeit der vier syllogistischen Figuren*
GS = *Grundlegung zur Metaphysik der Sitten*
JL = *Jäsche Logik*
KpV = *Kritik der praktischen Vernunft*
MN = *Metaphysische Anfangsgründe der Naturwissenschaft*
PM = *Prolegomena zu einer jeden künftigen Metaphysik*
R = *Reflexionen*
VM = *Vorlesungen über Metaphysik*
WL = *Wiener Logik*

I take the *Jäsche Logic* (compiled at Kant's request by Benjamin Jäsche from Kant's notes for his logic lectures and possibly also from transcripts of those lectures) to be a generally reliable indicator of Kant's views about logic, and I will treat it as such throughout this essay; but I will also seek to show that the main elements of my interpretation are confirmed in Kant's published works or in other available transcripts of Kant's logic lectures from the Critical period. Translations are my own but made with close consultation of the translations listed in the bibliography. I have, however, sought to bring out, in a way that contemporary translations often do not, the pervasiveness of the language of faculty psychology in Kant's writing. Thus, I translate *Vermögen* as “faculty” rather than (more blandly) as “capacity,” *Kraft* as “power” rather than as “force,” *Handlung* (when it is the

1. Conant on the “Kantian Conception of Logic”

One of the many thought-provoking ideas in Jim Conant’s important paper “The Search for Logically Alien Thought” is a suggestion about how to understand Kant’s contribution to the philosophy of logic.² On Conant’s reading, Kant’s conception of logic is innovative in that he holds that the science of logic must be sharply distinguished both from a metaphysical inquiry into the underlying structure of all real existence and from a psychological investigation of the laws that govern how our minds work.³ It tells us neither about “the nature of reality” nor about “how human beings reason.”⁴ Rather, it articulates principles that are “constitutive of the possibility of thought,”⁵ principles whose violation is impossible in a special and interesting sense. For these principles are not merely laws that *we human beings* cannot help but follow in our thinking; it is also not correct to say that *the world* is so constituted that these laws are never violated. They are inviolable in the deeper and more interesting sense that the ostensible idea of their failing to hold in fact represents no intelligible possibility whatsoever, but the mere illusion of a thought. This, Conant suggests, is what is at stake in Kant’s characterization of logic as the science of “the mere form of thinking”: this discipline is neither an empirical science of human thinking nor a non-empirical science concerned with a realm of supersensible truths that all sound thinking must respect. It is not a substantive body of cognition at all but merely a perspicuous articulation of what coherent thought itself must be, regardless of its content. Conant goes on to argue that this Kantian conception of logic persists as an important strand in Frege’s thinking about logic and that this strand in Frege’s thought is developed further by Wittgenstein.

exercise of a *Kraft*) as “act” rather than as “action,” etc. My grounds for these choices will become apparent below.

² James Conant, “The Search for Logically Alien Thought: Descartes, Kant, Frege, and the *Tractatus*,” *Philosophical Topics* 20, no. 1 (Fall 1991): 115–180. (This volume*)

³ Following Conant, I will use the phrase “Kant’s conception of logic” to refer specifically to Kant’s conception of what he calls “pure general logic,” the part of logic that is said to be concerned with “the merely necessary rules of thought” and consequently to “abstract from all content of the understanding’s cognition” (A54/B78). I will set aside the even more problematic topic of “transcendental logic,” which does *not* abstract from all content of cognition but rather takes account of those features of this content that are themselves knowable a priori (cf. A55–7/B79–82). Much of what I say does, I believe, bear on the interpretation of this latter sort of logic, but I cannot explore its bearing here.

⁴ Conant, “Logically Alien Thought,” 129. (This volume*)

⁵ *Ibid.*, 133. (This volume*)

The Kantian claims about logic on which Conant focuses are well known. Indeed, they are so familiar that our sense of their distinctiveness has faded, and we are prone to follow Kant in speaking of logic as a “formal” discipline without considering what is at stake in this characterization. One of the great merits of Conant’s paper, I think, is that it restores our sense of the profundity of the philosophical stakes here. Conant makes vivid how difficult it is to clarify what a genuinely “formal” science could be and how easy it is, while paying lip service to the idea that logic is concerned with the very form of coherent thought, to lapse into modes of thinking that treat logic as a substantive science concerned either with certain describable limits of human thinking or with the maximally general character of the world with which our thinking seeks to come to grips. I think Conant is exactly right to see Kant’s reflections on logic as aiming to articulate an alternative to these two options, and I think he is right to identify Kant’s characterization of logic as a formal science as the heart of his distinctive view.

There are, however, aspects of Kant’s view of logic that I believe Conant’s discussion understates, aspects that prompt questions about how near Kant’s conception stands to the Fregean and Wittgensteinian conceptions of logic with which Conant compares it. My aim in this essay is to highlight some features of Kant’s conception on logic that are *not* foregrounded in Conant’s discussion, with a view to sharpening our sense of where more recent thinking about the nature of logic has followed Kant and where it has departed from him. My purpose in doing this, I should emphasize, is neither primarily to “set the record straight” about Kant nor to oppose the conception of logic that Conant calls “Kantian.” It is rather to point out some resources in Kant’s thinking for answering a question that naturally arises if we *accept* that logic is neither a study of the metaphysical nature of reality nor a branch of empirical psychology: the question “Well then, what *is* logic about?” Kant’s answer, I believe, is that logic is concerned with a certain *power* of mind, the understanding—that it is in fact the *self-cognition* of this power. I want to say something about what these claims mean and how they set Kant’s conception of logic apart from certain familiar post-Fregean views.

2. Two Puzzling Features of Kant’s Conception of Logic

Conant draws attention to several features of Kant’s conception of logic that look remarkably modern: his insistence on a distinction between

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logic and psychology, his reliance on the notion of form in characterizing logic's special subject matter, his rejection of the idea that logic constitutes an "organon" of substantive cognition, and so on. There are, however, two other, equally prominent features of Kant's conception of logic that are liable to seem puzzling and alien to contemporary readers.

2.1. In the first place, there seems to be a curious ambivalence in Kant's view of the relation between logic and psychology. On the one hand, he famously complains that

[s]ome logicians presuppose *psychological* principles in logic. But to bring these sorts of principles into logic is just as confused as drawing morality from life. If we were to draw our principles from psychology—that is, from observations of our understanding—we would merely see *how* thinking occurs and how it *is* under various subjective hindrances and conditions. This would lead to the cognition of merely *contingent* laws. But in logic it is not a question of *contingent* but of *necessary* rules; not of how we do think, but of how we should think. (JL 9:14)

Yet even as Kant insists that logic differs fundamentally from psychology, he persists in characterizing its subject matter by appeal to seemingly psychological notions. In the *Critique of Pure Reason*, for instance, he defines general logic as the "science of the rules of understanding in general" (A52/B76), where "the understanding" names a certain cognitive faculty, one of the two fundamental "stems" of our human cognitive power (A15/B29). This suggests that, although Kant takes the *mode* of logical inquiry to differ in important ways from that of psychology, he remains committed to the idea that the *topic* of logic is in some sense psychological: it is concerned, in its own characteristic way, with an aspect of our mind.

The link between Kant's conception of logic and his faculty psychology is even more explicit in the opening of the *Jäsche Logik*, a textbook compiled from Kant's logic lectures, with Kant's approval, by Benjamin Jäsche:

Like all our powers [*Kräfte*], *the understanding* in particular is bound in its acts [*Handlungen*] by rules we can investigate. . . . For as sensibility is the faculty [*Vermögen*] of intuitions, so the understanding is the faculty for thinking, i.e., for bringing the representations of the senses under rules. . . . Now th[e] science of the necessary laws of the under-

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standing and of reason in general, or, which is the same, of the mere form of thinking, we call *logic*. (JL §I, 9:11–12)

Readers familiar with the terminology of scholastic faculty psychology will recognize German-language versions of faculty-psychological notions strewn throughout this passage: logic is concerned with a certain “power” or “faculty” of our mind, a power that makes possible a specific kind of “act.” Indeed, the very idea that thought has a “form” that can be distinguished from its “matter” is arguably an inheritance from scholastic philosophy.⁶ Nor is the presence of this terminology due to Jäsche: similar language appears in Kant’s own notes on logic and in student notes on Kant’s logic lectures from the Critical period (cf. R1579 16:17, WL 24:790, DWL 24:693).

The central role that faculty-psychological concepts play in Kant’s Critical philosophy is hardly news.⁷ But the role of these concepts in Kant’s characterization of logic presents a *prima facie* difficulty for any simple assimilation of his view of logic to the kind of radically non-psychological conception that has dominated post-Fregean philosophy. Influenced by Frege’s famous polemic against psychologism in logic, modern writers have tended to assume that, although the laws of logic may have implications for how we should think, the subject matter of these laws is not fundamentally the mind but an abstract order of implication and exclusion holding among propositions. Kant’s view, by contrast, seems to be that logic is fundamentally concerned with the mind, or at least with certain cognitive faculties: it is, fundamentally, a “a self-cognition [*Selbsterkenntniß*] of the understanding and of reason” (JL 9:14). He offers this characterization on the very same page on which he voices his scruples

⁶ Kant’s appeal to faculty psychological notions in characterizing the subject matter of logic is not unusual for his time: early modern philosophers commonly characterized logic in such terms. Nevertheless, Kant’s characterization is unusually systematic in two respects. First, whereas many early modern philosophers describe logic as a discipline that studies how to employ our faculty of reason *well*, Kant emphasizes that this science studies laws which are not merely advantageous for reason to follow in the pursuit of knowledge but *laws* grounded in the nature of the faculty of reason itself. Secondly—as will emerge in the rest of this essay—Kant makes unusually systematic use of faculty-psychological concepts such as *power*, *act*, *matter*, and *form* in his discussion of logic.

⁷ It has, however, been a central aim of much recent Kant interpretation to detach Kant’s philosophical insights from this framework. This, famously, was the project of P. F. Strawson, who set the agenda for a generation of scholarship when he declared Kant’s a priori faculty psychology to be an “imaginary subject” from which the genuine insights of the first *Critique* must be disentangled. See P. F. Strawson, *The Bounds of Sense* (London: Methuen, 1966).

about the introduction of psychological material into logic. So this is our first puzzle: How can Kant reject the introduction of psychological material into logic and yet characterize the subject matter of logic in this way?

2.2. A second feature of Kant's view of logic that is liable to puzzle modern readers emerges when we consider the actual logical theory he accepted. This was of course traditional syllogistic logic, the logic that descended largely unchanged from Aristotle and that stood largely unchallenged for two millennia, until Frege revolutionized the subject. Kant famously remarked that nothing essential needs to be added to this logical theory, so that the task of logic "seems to all appearances to have been finished and completed" by Aristotle (Bviii).

Today, it is hard for us to read such remarks without feeling a little amused. The logic with which Kant was satisfied seems to us profoundly limited, a description of a mere fragment of the territory that logic should treat.⁸ Moreover, its treatment of even this fragment seems strange and awkward. To mention just a few of the features that make it seem peculiar:

- (1) *It focuses almost entirely on inferences involving "categorical" judgments of the form "All (some, no) As are (not) Bs."* Kant gives an account of inferences involving hypothetical and disjunctive judgments as well (A73–74/B98–99, JL 9:105–108), and he criticizes logicians who overlook these forms (B141), but his discussion of these topics is brief, and he does not treat such judgments as prompting a general study of logical connectives and their role in generating complex propositions from simple propositions. Almost all of his theoretical attention is given to the act of mind involved in a categorical judgment—an act in which a "subject concept" is supposed to be "determined" by some "predicate concept" (cf. A68–9/B93–4).

⁸ Objections to Kant's logic from a modern mathematical-logical standpoint date back to Gottlob Frege, *Die Grundlagen der Arithmetik* (Breslau: W. Koebner, 1884), esp. §88; and Bertrand Russell, *The Philosophy of Leibniz* (Cambridge: Cambridge University Press, 1900), esp. 15; and *The Principles of Mathematics* (Cambridge: Cambridge University Press, 1903), esp. §434. For more recent presentations of the standard objections, see William Kneale and Martha Kneale, *The Development of Logic* (Oxford: Clarendon Press, 1962), 354–358; J. Michael Young, "Functions of Thought and the Synthesis of Intuitions," in *The Cambridge Companion to Kant*, ed. Paul Guyer (Cambridge: Cambridge University Press, 1992), 106; and Robert Hanna, "Kant's Theory of Judgment," in *The Stanford Encyclopedia of Philosophy*, Winter 2010, ed. Edward N. Zalta, <http://plato.stanford.edu/archives/win2010/entries/kant-judgment/>.

- (2) *It treats such categorical judgments as logically simple*, whereas we standardly treat them as complex propositions involving both truth-functional compounding and quantification (e.g., we regard *All As are Bs* as really of the form $(x)(Ax \rightarrow Bx)$). Kant's logical theory offers no treatment of propositions involving polyadic predication, multiple quantifiers, etc. He thus offers no systematic account of kinds of logical structure whose analysis has been central to the achievement of modern logic.⁹
- (3) *It gives scant attention to singular judgments*, the sort we would schematize as *Fa* and which *we* regard as logically simple. Following a long tradition, Kant treats these as equivalent, for syllogistic purposes, to universal judgments, so that "Socrates is a man," for instance, is read in effect as "All Socrateses are men." He seems to hold that the difference between a universal and a singular judgment becomes significant only when we turn to "transcendental logic," which considers the understanding in its relation to sensibility (cf. A71/B96).
- (4) *It takes a quite restrictive view of what counts as a proof*. Although Kant recognizes a category of "inferences of the understanding" which depend on only one premise, his view seems to be that these do not involve a substantive cognitive step but merely alter the "form" of an existing cognition (A303/B360, JL 9:115). The kind of inference that constitutes a proper "inference of reason" (*Vernunftschluß*) is syllogistic inference, in which there are exactly two premises, and the conclusion drawn from them is a third distinct judgment. Moreover, the judgments involved in a syllogism must be connected in a quite specific way: Kant holds that every genuine syllogism must be a "cognition of the necessity of a proposition through the subsumption of its condition under a given general rule" (JL 9:120). Consequently every genuine syllogism should be expressible in the form of a universal major premise plus some minor premise which states the fulfillment of a condition for that rule's application (A304/B360–361, JL 9:126).¹⁰

⁹ Michael Friedman has forcefully argued, however, that Kant does implicitly suggest a view of some aspects of this structure, not in his discussion of logic but in his comments on the nature of mathematical proof. See Michael Friedman, *Kant and the Exact Sciences* (Cambridge, MA: Harvard University Press, 1992), esp. chap. 1.

¹⁰ This leads Kant to suggest at one point that hypothetical syllogisms are not genuine proofs and hence not proper syllogisms at all (JL 9:129). His reason seems to be that their hypothetical premise does not present the *rule* according to which its consequent follows from

This is hardly a complete list of the ways in which Kant's logic looks odd from our standpoint, but it should be enough to bring out why his approach can feel cramped and unnatural to people versed in post-Fregean logic. Moreover, many of Kant's reasons for accepting these strictures on his logical theory will not strike a modern reader as properly "logical" in character. Why, for instance, should we draw a distinction of principle between one-premise inferences and multi-premise inferences? Why should we regard the distinction between categorical, hypothetical, and disjunctive judgments as giving a complete specification of the forms of "relations of thinking in judgment" (A73/B98) when other forms of truth-functional combination are clearly possible? Kant's reasons for these claims, to the extent that he gives any, seem to trace not to considerations about how best to capture general patterns of inference that lead from truth to truth but to certain psychological or epistemological views he holds about the nature of our cognitive power and the character of its basic activities.

This confronts us with a second puzzle: What exactly are the principles that govern the structure and content of Kant's logical theory, and how can the apparent role that epistemological or psychological considerations play here be consistent with his characterization of logic as a purely "formal" science? If we find ourselves assenting to Kant's abstract characterization of logic, while largely rejecting the details of the logical theory that he took to answer to this characterization, we should wonder how well we have understood his conception of form. And we should wonder, too, at the common assumption that Kant's satisfaction with syllogistic logic merely reflects his failure to recognize the existence and importance of other kinds of significant logical structure and other sorts of valid inference. After all, he was not just blind to the existence of valid non-syllogistic patterns of argument: his view, it seems, was not that syllogisms are the only arguments which carry us from truth to truth, but that they are the only ones that reflect basic operations of our power of reason. Until we grasp Kant's reasons for imposing this restriction, we should be cautious about claiming that our logical theory does more ad-

its antecedent; it simply asserts that it *does* follow and thus "carries only the *ground* of proof with it." In the first *Critique*, however, Kant does classify hypothetical syllogisms as genuine inferences of reason (A304/B361–361). For an illuminating discussion of how Kant can think of hypothetical judgments as also embodying rules, but rules that relate differently to their "condition" than do categorical rules, see Béatrice Longuenesse, *Kant and the Capacity to Judge* (Princeton, NJ: Princeton University Press, 1998), chap. 4.

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equately the very thing that he expected logic to do and took syllogistic logic to do quite satisfactorily.

2.3. The logic Kant took for granted is undoubtedly superseded for many purposes, but before judging it to be superseded for the purposes relative to which he judged it to be finished and complete, we should inquire more carefully into what those purposes were. In particular, I will argue that we should reflect more carefully on what he meant by claiming that logic describes “the necessary laws of the understanding.” Like many of Kant’s characterizations of logic, this is a formula which, when understood in a certain way, seems acceptable enough to us; but I want to suggest that this verbal agreement disguises a shift in our conception of logic, a shift so basic that it makes it difficult for us even to hear these words in the sense Kant intended them. To grasp their intended meaning, I will argue, we need to hear this formula in the context of a set of views about what a cognitive *faculty* is, on the one hand, and about what it is to *understand* something, on the other. These views were familiar in the period in which Kant wrote, but I believe our own rejection of them encourages us to underestimate their importance in Kant’s thinking. Recalling them will help us to appreciate Kant’s reasons for endorsing central elements of syllogistic logical theory, and it will suggest an answer to the question “What is logic about?” that is seldom considered in contemporary discussions.

3. Logic, Psychology, and the Power of Understanding

3.1. To bring out the crucial role played by faculty-psychological concepts in Kant’s thinking about logic, it will help to consider a natural response to our first puzzle. The puzzle was this: How can Kant reject the assimilation of logic to psychology and yet characterize the subject matter of logic in what seem to be psychological terms? The response I have in mind is that when Kant claims that logic is concerned with “the laws of understanding,” he means that it is concerned with the laws that describe how our power of understanding *ought* to proceed, and this topic is entirely distinct from the psychological question of how our understanding actually functions.

I think this response seeks to resolve the puzzle too quickly. The first part of the response is true enough: when Kant speaks of the laws of understanding, he does mean principles that govern how we *ought* to think, as the earlier quoted passage makes clear. But our willingness to move from this observation to the conclusion that such principles do *not*

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concern our actual psychology reflects our acceptance of an opposition between a normative characterization of the laws that the understanding ought to follow and a descriptive characterization of the laws that actually govern this power. I want to suggest that our willingness to accept such an opposition is a mark of the distance between Kant's standpoint and our own.

To bring this out, it will help to compare Kant's view with Frege's. Frege, too, says that logic can be regarded as a "normative science," whose laws prescribe how we ought to think.¹¹ But on his view, this can be said of the laws of any science and has no tendency to show that the power to think is the *topic* of logic, any more than it would show that it is the topic of physics or geometry:

Any law that states what is can be conceived as prescribing that one should think in accordance with it and is therefore in that sense a law of thought. This holds for geometrical and physical laws no less than for logical laws.¹²

What logic studies, according to Frege, is not thinking but truth, and the laws it uncovers have normative implications for thinking just insofar as thinking aims at truth. For Kant, by contrast, logic does not merely state principles that bear on what we should think; it has thinking for its topic ("the understanding" being a "faculty of thinking": see A69/B94, A126).¹³ In this sense, it is concerned with a certain mental power or faculty and so is in *some* sense concerned with psychology.

¹¹ See Gottlob Frege, "Logic," trans. Peter Long and Roger White, in *The Frege Reader*, ed. Michael Beaney (Oxford: Blackwell, 1997), 228.

¹² Gottlob Frege, *The Basic Laws of Arithmetic*, trans. Montgomery Furth (Berkeley: University of California Press, 1964), 202. Compare also the following passage from "Thought":

[I]t falls to logic to discern the laws of truth. The word "law" is used in two senses. When we speak of moral or civil laws we mean prescriptions, which ought to be obeyed but with which actual occurrences are not always in conformity. Laws of nature are general features of what happens in nature, and occurrences in nature are always in accordance with them. *It is rather in this sense that I speak of laws of truth. . . . From the laws of truth there follow prescriptions about asserting, thinking, judging, inferring.* (Gottlob Frege, "Thought," trans. Peter Geach and R. H. Stoothoff, in *The Frege Reader*, ed. Michael Beaney [Oxford: Blackwell, 1997], 325)

Thus, Frege holds that the laws of logic are fundamentally *about* what is true: their content is not prescriptive and does not mention thinking. Nevertheless, they *imply* prescriptions about how to think inasmuch as thinking (when it consists of judging or inferring) aims at truth.

¹³ In fact, I think Kant *could not* explain the bearing of logic on thought in Frege's way by saying that logic is fundamentally concerned with laws of truth and that these imply prescriptions for thinking inasmuch as it aims at truth. For Kant holds that the very idea of

Closer scrutiny of Kant's account of the subject matter of logic supports this reading. In the very section of *Logic* in which he denies that logic can draw its principles from psychology, for instance, Kant begins by stating that “[e]verything in nature . . . takes place according to rules” and that “the exercise of our powers [*Kräfte*]”—including, he goes on to say, our power of understanding—“also takes place [*geschieht*] according to certain rules” (JL 9:11). It is in this context that he says that the understanding is “bound in its acts to rules [*bei seinen Handlungen an Regeln gebunden*],” which logic studies. This strongly suggests that the rules described by logic are not intended to be *merely* normative for the understanding, but rather are rules that in some sense actually “determine” how the understanding proceeds in its particular acts.

The comparison Kant draws between the rules of logic and the rules of morality also points toward this conclusion. To draw logical principles from psychology, Kant says, would be “just as confused as drawing morality from life.” Taking this comparison seriously requires that we also consider what Kant says about the prescriptive character of moral laws; and what he says, famously, is this:

All imperatives are expressed using an *ought* [*ein Sollen*], and thereby indicate the relation of an objective law of reason to a will which, in virtue of its subjective constitution, is not necessarily determined by this law. (GS 4:413)

What Kant says here is that a law is expressible as a prescription when the faculty it characterizes is constituted in such a way that the law in question does not *necessarily* determine how it acts. That is consistent with the claim that the relevant law *does* determine how the faculty acts—not invariably, but when nothing interferes with its operation. And this, in fact, is clearly Kant's view, both about the laws of the will and the laws of the understanding. Thus he holds that our will is not *necessarily* determined by moral laws only because it is affected by another power, sensible inclination, which is capable of inclining it to deviate from what its own law prescribes. Insofar as our will is not swayed by this other power, it will in fact act morally.¹⁴ And similarly, he holds that

truth is to be explained in terms of a certain conformity of thought to its own laws. This is one aspect of his famous “Copernican turn” in philosophy: see JL 9:49–50 and A58/B82, A104–105, B136–142. To explore this point, however, would require another essay.

¹⁴ Thus Kant says that a will which was not sensibly conditioned would be one for which moral laws did not hold as imperatives but rather simply as descriptions of how it necessarily *does* operate (cf. GS 4:414).

our understanding is not necessarily determined by its own laws only because it is affected by another power, sensibility, which is capable of exerting an “unnoticed influence” on it, leading it to mistake subjective grounds for objective ones—but that insofar as it is not thus influenced, it will in fact judge rightly:

No natural power [*Kraft der Natur*] can of itself depart from its own laws. Thus neither the understanding by itself (without the influence of another cause), nor the senses by themselves, can err. (A294/B350, cf. JL 9:53–54)

When Kant says that logic is the science of the laws of the understanding, he thus means not merely that it is concerned with the laws that the understanding *should* follow, but that it studies the laws the understanding is *actually disposed to follow* in virtue of its own nature.

What then are we to make of his insistence that logic cannot draw its principles from psychology? If we look closely at the passages in which he makes this point, it is clear that his objection is not fundamentally to the idea that logic is concerned with the actual nature of our power to think but to the idea that the nature of this power can be studied *empirically*, “from observations [*Beobachtungen*] of our understanding.”¹⁵ What he objects to is the idea that, to determine the laws of the understanding, we should study how it acts “under various subjective hindrances and conditions.” This is how an empirical psychological investigation would inevitably present the understanding: as it functions under the conditions that actually obtain. And if we generalized from observation of how the understanding acts under such conditions, we would not uncover laws that hold of it simply as such, but, at best, laws that describe how it behaves under particular empirical conditions. Such laws, Kant maintains, would be no concern of logic; for its concern is to study “the right use of understanding, i.e., the use in which it agrees with itself [*den mit sich selbst übereinstimmenden Gebrauch des Verstandes*]” (JL 9:14).¹⁶

¹⁵ Thus, when Kant summarizes his view a few pages later, he expresses the lesson of this discussion by saying that logic does not study the understanding “according to empirical (psychological) principles” (JL 9:16; cf. A54/B78, GS 4:387).

¹⁶ Note the gloss here: the right use of the understanding is the one in which it follows its own law. Indeed, Kant holds that what *makes* logic a canon for the understanding is that it studies the understanding’s own constitutive law: “as a science of the necessary laws of thinking, without which no use of the understanding and reason takes place, which are *consequently* [*folglich*] the conditions under which it can and should be in agreement with itself, . . . logic is a *canon*” (JL 9:13; first emphasis added).

When Kant denies that logic can draw principles from psychology, then, his objection is not to the idea that it studies the actual nature of the understanding but to the idea that it can discover this nature in a certain way, by examining it as it is empirically given. This clarifies how Kant can consistently hold that logic is concerned with the laws of the understanding and yet that its topic is not a psychological one. In saying this, he uses “psychology” in a restricted way, to name the *empirical* study of the mind.¹⁷ He holds, however, that there is another kind of study of our power of understanding, one that proceeds not through observation but through an exercise of reflective self-consciousness, in which the understanding grasps the form of its own characteristic activity. Logic studies the understanding in this way—through “a self-cognition [*Selbsterkenntniß*] of the understanding and of reason” (JL 9:14).

3.2. The point I want to emphasize about Kant’s view of these matters is that it does not oppose prescriptive laws to laws that govern the actual functioning of a power. On the contrary, the very laws that describe the *proper* functioning of a power are the laws that determine its *actual* functioning if nothing interferes: they are laws that describe how, as we might put it, that power is, in itself, disposed to act. Thus if logic is the science concerned with the laws of the understanding, it is concerned with laws that do not merely prescribe *to* the understanding but flow *from* the nature of this faculty.

This makes for a deep contrast between Kant’s understanding of the subject matter of logic and a typical contemporary understanding. When contemporary philosophers characterize logic as a “formal” discipline, they tend to mean that it is concerned with the forms of propositions and of the patterns of argument in which they can figure. We may be willing to say that logic studies “the laws of valid reasoning,” but our emphasis here is really entirely on the word “valid,” and this points us toward a standard that is supposed to be independent of any determinate view of how “reasoning” actually works. The laws of valid reasoning, for us, are

¹⁷ Kant’s willingness to speak as if empirical psychology were the only possible psychology reflects his reserving the term “rational psychology” for a purported nonempirical science that supplies us with substantive cognition of the nature of the soul in itself. He, of course, denies that there can be such a science in the Paralogisms chapter of the first Critique. The science of logic escapes these strictures because, according to Kant, it does not supply us with *cognition of an object*: it merely describes the form of our cognitive power itself (cf. Bix, A54/B78, A60–61/B85–86). The error of rational psychology is precisely to mistake “the logical exposition of thinking in general” for “a metaphysical determination of the object” (B409).

simply the laws that describe how *propositions* with certain describable shapes are related. When Kant uses similar language, he means something quite different: that logic is concerned with the general form of the activity of *cognition*, which he explains as “the condition without which a cognition would not be a cognition at all” (JL 9:50). Cognition is here conceived as the *act* of a certain mental power, the understanding, so that to study the form of cognition is to study the nature of this act, in abstraction from whatever object it may be directed upon.

If I am right that these faculty-psychological concepts structure Kant’s thinking about logic, then in order to understand his conception of logic, we first need to consider the general relation of powers to their acts. This is not a relation to which Kant devoted extensive discussion; it is one he largely took for granted, because it was part of the stock-in-trade of the philosophical tradition in which he was writing. He does, however, remark on its importance and its familiarity:

This [concept of] causality leads to the concept of act, this to the concept of power, and thereby to the concept of substance. Since I do not wish to clutter my critical project . . . with divisions which merely concern the elucidation (not the amplification) of concepts, I leave aside the detailed exposition of these [concepts] for a future system of pure reason—especially since one can already find such an analysis in rich measure in well-known textbooks of this kind. (A204/B249)¹⁸

This remark occurs in the midst of Kant’s discussion of the schematized categories in the Principles chapter of the first Critique, and I think this has led many readers to focus exclusively on the application of these concepts to objects presented in experience.¹⁹ But Kant clearly invokes this set of interconnected concepts—*Substanz, Kraft, Handlung*—also in connection with the mind. Indeed, in his lectures on metaphysics, having

¹⁸ Kant seems to have had in mind, above all, Alexander Baumgarten’s *Metaphysica* (Halle: Carl Hermann Hemmerde, 1739), which was the textbook he used in his own lectures on metaphysics. Baumgarten’s text includes a section on substances, powers, and acts, which Kant regularly discussed in his lectures.

¹⁹ This reading is encouraged by the usual translation of *Kraft* in this context as “force,” whereas when used in connection with the mind, it is usually translated as “power.” I think this choice of variation in translation, though intelligible, is a mistake. It is certainly true that Kant means his remarks about *Kräfte* to have a bearing on Newtonian natural science, but translating *Kraft* differently in different contexts disguises the unity that Kant sees in this topic: his thought, I take it, is that *the very same metaphysical concept* has a role to play both in a sound analysis of mind and in an adequate natural science. Moreover, this choice of inconsistent translations obscures a connection, which Kant clearly intends, with scholastic metaphysical discussions of substances and their powers.

defined a power as “the relation of the substance to its accidents, insofar as it contains the ground of their actuality,” Kant takes the “faculty of thinking” (i.e., the understanding) as his first illustration of such a power: this is “the relation of the soul to thought insofar as it contains the ground of its actuality.”²⁰

Kant’s general remarks about substance, power, and act bring out two points that we should notice. First, in virtue of having a certain power, a subject is “the ground of the actuality” of certain other properties it pos-

²⁰ VM 29:771: the passage is from the *Metaphysik Mrongovius*, which contains notes on Kant’s metaphysics lectures from the academic year 1782–1783, the year after the publication of the first edition of the *Critique of Pure Reason*. Longuenesse notes the parallel between Kant’s general remarks on substances, powers, and acts and his talk of mental acts and mental powers, but she suggests that “one should approach this parallel with caution” since “the *Critique* warns us [in the Paralogisms chapter] not to consider the *Gemüt* or mind, the whole of our representational capacities, as a substance” (Longuenesse, *Kant and the Capacity to Judge*, 7–8). The passage from Kant quoted above suggests that, although caution is certainly in order, we should not be dissuaded by the Paralogisms from reading his remarks about mental powers in the light of his general views about substances, powers, and acts. For Kant himself—according to the lecture notes of one of his students, anyway—mentions the power of thinking in a general discussion of the relation between substance, power, and act. These lectures were given shortly after the publication of the first edition of the first *Critique*, and in them he repeats essentially the same criticisms of rational psychology that he makes in the Paralogisms chapter. It seems, then, that he must not think there is a tension between bringing the framework of substances, powers, and acts to bear on the mind in this way and rejecting the fallacious conclusions of the rational psychologists. Closer examination of the Paralogisms bears this out. What Kant denies in the Paralogisms is that we can *know* that the “I” that thinks is *really* a substance in itself (which would entail its permanence, immutability, etc.). He does not deny that we must *conceive* of our mind through the *logical* categories characteristic of substances and thus of our mental powers as having the kind of unity which the powers of a substance have. On the contrary, he affirms this, although he denies that it entitles us to draw the conclusions of the rational psychologists:

[E]veryone must necessarily regard Himself as substance, but his thinking only as accidents of his existence and determinations of his state . . . [O]ne can quite well allow that the proposition *The soul is substance* holds, if only one admits that this concept . . . cannot teach us any of the usual conclusions of the doctrine of rational psychology, such as the everlasting duration of the soul through all alterations, even the person’s death—[if only one admits, in other words] that it signifies a substance only in idea but not in reality. (A349–351)

The connection I am drawing between Kant’s remarks about our power of understanding and his thinking about the categories of substance, power, and act does not require any claim about the real nature of the subject to whom these powers belong; it simply brings out the consequences of regarding the mind as a substance “in idea,” as Kant says we must (cf. also A672/B700). The kind of unity our mental powers possess is, *logically speaking*, the kind of unity that the powers of a substance possess, even if we cannot conclude that this logical unity corresponds to the sort of real unity that rationalist metaphysicians sought to infer from it.

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sesses.²¹ To ascribe a power to a subject is thus to make a nontrivial commitment about how that subject will be or what that subject will do if suitable conditions present themselves. The things it then does are its *acts*: an act is what comes to be when a power meets the conditions suitable for it to express itself. These need not consist of “actions” in the usual contemporary sense of the term: a subject’s knowing something, for instance, though not an event or process, would, in this tradition, be regarded as an “act” of its power to know. To call something an “act” of a subject is simply to represent it as a way of being or becoming whose primary explanation is to be sought in the *nature* of that subject, rather than in the effect of some *other* thing on the subject in question.

Secondly, the concept of an act is related not only to the concept of a power but also “thereby to the concept of substance” (A204/B249; cf. VM 29:773, 29:822–823). For a power must have a *bearer*, which is the underlying subject to which the acts of the power are ascribed; and just as Kant, in general, takes reason to be driven to seek the condition of everything conditioned, so, in this context, he takes it to be driven to seek an ultimate subject whose activity is not itself the product of some more

²¹ A word about Kant’s use of the terms *Vermögen* (“faculty”) and *Kraft* (“power”). In his lectures on metaphysics, Kant explains *Vermögen* as “the ground of the possibility of an act,” whereas *Kraft* designates “the ground of the actuality of an act” (VM 29:823–824, and cf. 28:565). This corresponds to the distinction between *facultas* and *vis* drawn in Baumgarten’s *Metaphysica* (§§197, 216, 220), from which Kant lectured. Baumgarten characterizes *facultas* as “the possibility of acting” (§216), whereas *vis* is “the complement to the faculty to act, that is, what is added to the faculty so that the act comes to be” (§220). These characterizations are cryptic, but the intention seems to be to distinguish between a mere faculty considered in itself, whose presence in a subject makes a certain sort of act *possible* for that subject, and a faculty complemented by whatever further conditions are needed to enable it to perform its proper operation successfully (and thus to be the “ground of the actuality” of the relevant act). Kant speaks sometimes of the understanding as a *Vermögen* (e.g., A51/B75, A81/B106, B137) and sometimes as a *Kraft* (e.g., B130, A130–131/B169, JL 9:11). If the preceding interpretation of the faculty/power distinction is sound, this makes sense. Since the power of understanding is simply the faculty of understanding in the presence of those further conditions necessary for it to act successfully, a subject whose *faculty* of understanding is placed in favorable circumstances (perhaps, in the presence of an adequate education, a proper cultivation of the power of judgment, etc.) will possess the *power* of understanding. So it is equally correct to speak of the understanding as a faculty of persons and as a power to which they characteristically attain. (This account of the faculty/power distinction differs from the one proposed by Longuenesse. She suggests that the *Urteilkraft*—the power to judge—is “the actualization of the *Vermögen zu urteilen* under sensory stimulation” (*Kant and the Capacity to Judge*, 7). I think this conflates the faculty/power distinction with the power/act distinction. The power to judge is the faculty to judge complemented by those general conditions that *enable* it to act successfully, whereas the judgments made by this power “under sensory stimulation” are its acts.)

basic power. To represent a certain way of being or becoming as the act of a power is thus to commit oneself to a certain framework of inquiry, so to speak: one that seeks so far as possible to trace such acts to some underlying subject whose powers they express. Such a thing would be a *substance*, something that “must be considered always as subject, never as mere predicate” (B129, cf. A147/B186). Moreover, Kant holds that a “logical maxim” requires reason to seek to explain the various appearances connected with a certain substance, which may initially appear to be the manifestations of many different powers, by appeal to some single “fundamental power” (A648/B676–A651/B679).²² His thought here seems to be that, insofar as various powers all belong to a single substance, there must be something that explains why they constitute powers of *one* substance—a single principle of activity. The framework of substances, powers, and acts thus brings with it a demand that we seek, so far as we can, to understand the diversity of powers belonging to a substance as grounded in an underlying unity.

Indeed, in the case of the powers of cognition, Kant holds that a more specific demand applies: we must not merely seek to understand our various cognitive powers as aspects or expressions of a single fundamental power; we are entitled to assume that these powers form a unity of a quite special kind, one in which “[e]verything that is grounded in the nature of our powers must be purposive and in agreement with the correct employment of those powers” (A642/B670). That is, we are entitled to regard our cognitive powers as forming a sort of *functional* unity, in which each particular cognitive power performs a specific and essential role in making the fundamental act of the cognitive power as a whole (namely, cognition itself) possible. Kant’s commitment to this idea is made explicit in a remark he makes in the preface to the first Critique:

[Pure reason], as regards the principles of its cognition, is a quite separate, self-subsistent unity, in which each part exists for every other, and all for the sake of each, as in an organized body. (Bxxiii; and cf. Axiii, Bxxxvii–xxxviii)

²² Kant holds that we are required to *seek* a fundamental power underlying an apparent diversity of powers—not that we can know that there is such a fundamental power. Nevertheless, he holds this demand to be a regulative principle of reason with a transcendental ground: see A651/B679. He is also explicit about applying this principle to the powers of the mind. Thus, in lectures on metaphysics thought to be from the years 1790–1791, he remarks that “all physics, of bodies as well as spirits, the latter of which is called psychology, amounts to this: deriving diverse powers, which we know only through observations, as much as possible from basic powers” (VM 28:564).

The various powers of reason are distinguished precisely by their different contributions to making the existence of a self-sustaining system of rational cognition possible, much as the organs of the body are distinguished by their different contributions to making our bodily existence possible.

This general excursus on substances, powers, and acts has taken us some way from the topic of the laws of understanding in particular. The digression will have been worthwhile, however, if it leads us to ask the right questions when we return to the power of understanding and its act of judgment. If Kant thinks of judgment as the act of a power belonging to a functionally organized system of powers, then the first question to ask about it is: What is the *function* of this act, and how does that function contribute to the functional unity of our system of cognition as a whole?²³

4. Logic and the Act of Judgment

4.1. This orientation toward function puts us in a position to perceive a deeper significance in Kant's claim that logic studies the laws of the understanding. We post-Fregeans are inclined to hear this merely as the claim that logic charts the laws from which our thinking must not depart in its search for truths: laws that *constrain* cognition. For Kant, I want to suggest, it meant something more positive: that logic studies the laws which describe what it is to understand something, laws whose ever-more-systematic application in our thinking constitutes its increasing *perfection as cognition* (cf. JL 9:49–57, B114). A major reason why Kant's logical theory looks peculiar to us, I think, is that we fail to see it from this standpoint. My aim in the remainder of this essay will be to bring out how the peculiar features of his logical theory that we noted earlier (§2.2) become more intelligible when seen in context of

²³ This is not to suggest that Kant regards the metaphysical concepts of act, power, and substance as *more basic* than the logical concepts of concept, judgment, and inference. Kant's view, famously, is quite the reverse: he holds that the concepts which have traditionally preoccupied metaphysicians, including the concepts *substance*, *power*, and *act*, are in an important sense traceable to forms of judgment studied by logicians. But this is consistent with the interpretative maxim that, in seeking to understand why Kant thinks logic should take the shape that it does, we must understand this science as seeking to give a formal description of a certain power, the understanding, and the acts by which it pursues the end of ordering given cognitions into a unified and systematic body of knowledge. My claim is not that these notions of function, unity, and system are more basic *than* the central ideas of Kant's logic, but they are basic *to* an appreciation of how he understands these logical ideas. (This note responds to a question pressed on me by Lanier Anderson, to whose comments I am indebted.)

his conception of the specific cognitive functions of the acts of judgment and inference. In this section, I'll consider Kant's characterization of *judgment* as the basic act of our cognitive power and how this characterization influences his views about the most basic form of judgment. In the following section, I'll turn to Kant's general conception of the aims of cognition and the way these aims are reflected in the patterns of *inference* he treats as basic.

4.2. In a crucial section of the first Critique titled "On the logical use of the understanding in general," Kant argues that we can "trace all acts of the understanding back to judgments" (A69/B94). He then proceeds to argue that "the logical function of the understanding in judgment" can take various forms, which he presents in a famous table (A70/B95). A large body of literature has grown up around the question of where the divisions of this table come from and whether Kant is entitled to claim that they represent an exhaustive inventory of the basic forms that judgment can take.²⁴ I will not take up this question here, but will simply make an observation about the principle from which the divisions are supposed to follow: namely, that it is a conception of the fundamental *act* of understanding, judgment.²⁵ This makes the description of the general nature of the act of judgment, which Kant gives in the paragraph immediately preceding, crucial for understanding his view of what these forms characterize, and why they are basic.

When Kant characterizes the act of judgment in the paragraph that precedes the table of forms of judgment, he does so precisely by describing its role in making cognition possible. The task of any power of understanding, he holds, is to cognize a manifold of representations by combining them in such a way that they "determine an object" (cf. A50/B74, B137, B166n); but our power of understanding, being finite, cannot supply this manifold

²⁴ Influential discussions include Klaus Reich, *The Completeness of Kant's Table of Judgments*, trans. Jane Kneller and Michael Losonsky (Palo Alto, CA: Stanford University Press, 1992); Reinhard Brandt, *Die Urteilstafel. Kritik der reinen Vernunft A67–76/B92–101* (Hamburg: Felix Meiner, 1991); Michael Wolff, *Die Vollständigkeit der kantischen Urteilstafel* (Frankfurt: V. Klostermann, 1995); and Longuenesse, *Kant and the Capacity to Judge*.

²⁵ This point has been emphasized by several recent authors: see Wolff, *Die Vollständigkeit*, 19–24; Longuenesse, *Kant and the Capacity to Judge*, 76; and Henry E. Allison, *Kant's Transcendental Idealism* (New Haven, CT: Yale University Press, 2004), 146–147. I am indebted to these discussions, though I think my reading brings out, more fully than those of these interpreters, how this idea is reflected in Kant's conception of the form of our most basic judgments.

itself. Rather, it must receive a manifold of representations from another power, sensibility, and its distinctive task is to “synthesize” this manifold into the sort of unity whereby it has a “certain content” (A77–78/B103). It does this by “ordering different representations under a common one”; that is, by bringing *concepts* to bear (A68/B93). Indeed, Kant explains what sort of representation a concept is by appeal to this role in cognition: a concept is a representation which does not by itself determine an object but is related to an object only “mediately,” by subsuming other already given representations. By contrast, intuitions are representations given to us by sensibility, and these do “relate immediately” to objects (A19/B33, A320/B376). Nevertheless, Kant holds that these immediate, given representations do not by themselves supply us with cognition. Intuitions without concepts are, he famously says, “blind” (A51/B75).

Kant seems to regard the fact that judgment is the basic act of our power of understanding as a direct consequence of these facts about the nature of this power. Since our understanding can produce only representations which relate mediately to objects, the act by which it cognizes an object can only be one in which it brings to bear such a representation on an already given representation, thereby “determining” that given representation in such a way that new cognition results. Judgment is precisely this act of determining (applying a predicate to) a given representation (the subject) in a way that enlarges our cognition:

Judgment is thus the mediate cognition of an object, that is, the representation of a representation of it . . . So for example in the judgment: *All bodies are divisible*, the concept of the divisible relates to various other concepts; among these, however, it is here particularly related to the concept of body, and this in turn is related to certain appearances that come before us. These objects are thus mediately represented by the concept of divisibility. (A68–69/B93–94)

But on the other hand, since intuitions by themselves are blind, the subject-representation which judgment further determines must already involve a concept of the object. Kant says words to this effect in many places, but he says it most explicitly in an important *Reflexion*:

We are acquainted with [*kennen*] any object only through predicates we say or think of it. In advance of this, any representations to be met with in us count only as materials, not as the cognition. . . . In every judgment, accordingly, there are two predicates that we compare with each other. The first of these, which constitutes the given cognition of the

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object, is called the logical subject; the second, which is compared with it, the logical predicate. (R4634 7:616–617; cf. R3921 7:345–346)

4.3. This account of judgment and its role in enlarging cognition has many suggestive features, not all of which can be considered here. What is important for our purposes is the palpable connection between this account and Kant’s focus on categorical judgments in his logical theory.²⁶ A categorical judgment relates two *concepts*, a subject-concept and a predicate-concept. The manner of their relation—whether it pertains only to certain objects or to all; whether the assertion is of agreement or disagreement of the predicate with the subject; whether the relation is regarded as merely possible, actual, or necessary—depends on the form in which these materials are placed. But in any case, the basic act of judgment is the act of determining one concept by relating it to another, an act whose general form we could represent as

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where S and P are the concepts combined in judgment and the dash ~~mark~~ the need for a specification of the particular functions of unity which are applied to these concepts (whether the subject is considered universally, particularly, or singularly; whether the predicate is applied affirmatively, negatively, or infinitely; etc.). This contrasts with the Fregean view, which takes the simplest sort of judgment to be the assertion that a certain *object* falls under a concept, a mode of composition which is standardly symbolized as

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If this latter analysis of the primitive form of judgment is read—no doubt contrary to Frege’s intention—as an account of the basic act by which we cognize, the story it tells is of our classifying already-apprehended individuals whose availability to our thought presupposes no precedent classification. For if our apprehension of the object a itself

²⁶ I will focus on Kant’s conception of the species of judgment he takes to be most basic: categorical judgment. I believe, however, that several of the points I make here can be extended, *mutatis mutandis*, to hypothetical and disjunctive judgments. Béatrice Longuenesse has emphasized that Kant thinks not only of categorical judgments, but also of hypothetical and disjunctive judgments, as involving a kind of determination of a subject by a predicate (see Longuenesse, *Kant and the Capacity to Judge*, chap. 4), and this is reflected in his willingness to speak of judgment in general as “mediate cognition of an object.” I hope to consider Kant’s views about the cognitive role of hypothetical and disjunctive judgments in future work.

presupposed some sort of classification, and if our aim in constructing our logical symbolism were to represent the basic structure of the act of mind through which cognition is possible, then we could not allow the term *a* to appear primitively in our analysis. Given Kant's views about the nature of cognition and the task of logic, then, the Fregean approach cannot count as a satisfactory analysis of the fundamental form of a judgable content. The syllogistic approach, by contrast, is at least along the right lines: it represents our basic cognitive act as one of *further determining* an extant concept of an object. Kant's general view of cognition thus sheds light on the first two puzzling features of his logical theory: (1) its focus on categorical judgments, and (2) its treatments of such judgments as logically simple rather than logically composite.

I think it also sheds light on feature (3): the scant attention paid to singular judgments. For on the view of cognition sketched above, reference to particulars enters our judging, not as a distinct element, as in the Fregean analysis, but rather as a manner in which a relation between concepts is presented. A judgment is singular in *form* just if it presents the subject-concept as determined by a certain predicate-concept simply in respect of its instantiation in one particular object: *this S is P*. But now Kant holds that the possibility of this sort of relation to an object—the sort that funds the concept of a particular individual, *this S*—depends on the possibility of the presentation of the relevant object in sensible intuition. Singular judgment is thus possible for us—in the fundamental case, at least—only in virtue of sensible intuition, for only intuition supplies us with representations which are singular. But general logic, on Kant's view, is concerned with the laws of thought in abstraction from all relation to sensibility—laws which pertain to the understanding simply as such. So general logic can be concerned only with general relationships between subject and predicate concepts. And such fundamental relationships are plausibly just those distinguished in syllogistic logic: that the predicate concept determines (affirmatively or negatively) all instances of the subject concept (universal judging) or only some of them (particular judging).

5. Logic and the Aim of Cognition

5.1. Much more could be said about the first three puzzling features of Kant's logic, but in closing I want to turn to feature (4): his restrictive view of what counts as a proper "inference of reason." This too, I believe, has its source in his general conception of cognition. Exploring this connection will return us to the idea that our intellectual powers belong

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to a sort of functional system, in which each part contributes to sustaining a unified “body” of cognition.

5.2. We should first note a few points about how Kant thinks of the pattern of argument that he privileges. I have mentioned that he thinks of all syllogistic inferences as presenting a “cognition of the necessity of a proposition through the subsumption of its condition under a given general rule” (JL 9:120). That is, the combination of subject and predicate in the conclusion is exhibited as deriving from a rule which states that a certain predicate applies, or does not apply, to anything that meets a given condition, and from another premise which states that a certain subject meets the condition in question.²⁷ Thus, to take an example from the first Critique, I may know as a general rule that all humans are mortal, and then recognizing that all scholars meet the condition of being human, I infer that all scholars are mortal (A304/B360–361).

Like other syllogistic logicians, Kant sometimes speaks of such an inference as primarily relating not propositions but *concepts* (or “terms”): our bringing the concept *scholar* universally under the concept *mortal* is “mediated” by a “middle term,” *human*, our cognition of which enables us to see the necessity of judging all scholars to be mortal (see, for example, A322/B378, VM 29:888–889). It is this relation of “mediation” that Kant demands in any proper syllogism: the connection of subject and predicate made in the conclusion must be presented as depending on a middle term, our cognition of which shows us the need to connect the two extremes in the relevant way. Unless our knowledge of a conclusion can be represented as required in this way by a more general cognition, Kant holds that we are not dealing with a genuine “inference of reason” [*Vernunftschluß*], even if the transition we have made exhibits a form that always leads from truth to truth.

If we ask why Kant imposes this restriction on what he counts as a basic form of proof, the outlines of his answer are clear enough: he holds that only this form of argument exhibits the necessity of combining this subject with this predicate, and he regards the comprehension of such necessities as the fundamental task of reason. Thus, having noted that in a syllogistic deduction, one “cognizes the conclusion *a priori* . . . as

²⁷ Relatedly, Kant holds that all sound syllogistic proofs must be reducible to one of the moods in the first syllogistic figure, in which the major premise is universal (affirmative or negative) and the minor is affirmative (JL 9:126, and cf. FS 2:45–61). Such a reduction would exhibit in every sound syllogism a rule-and-application structure.

contained in the universal and as necessary under a certain condition,” Kant remarks that “that everything stands under the universal and may be determined by universal rules is the very principle of *rationality* or of *necessity*” (JL 9:120). But these associations—of rationality with necessity and of necessity with universality—may seem puzzling. For in the first place, we can surely prove propositions that do not hold necessarily; and indeed Kant himself gives numerous examples of syllogistic arguments whose conclusion is in the assertoric, not the apodictic, mode. What then can he mean by claiming that a proof must involve “the cognition of the necessity” of a judgment? And at any rate, why should only arguments that exhibit a conclusion as the application of a general rule supply us with cognition? If I know that my premises are true and that I am drawing an inference from them in accordance with an argument form that always leads from true premises to true conclusions, then why should I not count as knowing that my conclusion is true, whether or not my argument has the form of a syllogism?

5.3. To answer these questions, we must turn once again to Kant’s general conception of the role of judgment in cognition.

Consider first the question about the kind of necessity presented by a syllogistic deduction. The necessity with which I am presented when I am confronted with a valid syllogism from known premises is the necessity of *judging* that a certain predicate applies to a certain subject. A syllogistic deduction may or may not show that a certain predicate *necessarily* applies to a certain subject, but at any rate it aims to show that any right-thinking power of understanding *must judge* it to apply (whether necessarily or merely actually or possibly). Now, Kant holds that every objectively significant judgment lays claim to *this* sort of necessity: not every judgment presents a certain predicate as belonging to a certain subject necessarily, but every judgment presents the combination of a certain predicate with a certain subject (be it problematic, assertoric, or apodictic) as holding not contingently for my individual consciousness but necessarily for any consciousness judging correctly about this matter. This kind of claim to necessity is an inevitable feature of any judgment that purports to determine an object, since

when a judgment agrees with an object, all judgments concerning the same object must likewise agree among themselves, and thus the objective validity of the judgment of experience signifies nothing other than its necessary universal application. (PM IV.298)

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By its very nature, then, a judgment lays claim to being a nonarbitrary combination of representations—one that holds not just for my consciousness but for “consciousness in general” (PM IV.304–5; cp. A104, B142). A syllogistic deduction from known premises exhibits the necessity of its conclusion in this sense: it presents the act of determining-this-subject-with-this-predicate as an act that any sound power of understanding must perform. Such a deduction thus fulfills a promise that any judgment implicitly makes.

Turn now to Kant’s idea that such a deduction must exhibit the combination of a certain subject with a certain predicate as “determined” by a general rule. Why must a proper deduction take this form? Well, we have seen that a syllogism exhibits its conclusion as determined by a certain rule by showing how the combination of concepts involved in the conclusion is required by the application of some more-embracing concept. Thus *scholar* is shown to be universally determined by *mortal* because it is universally determined by *human*, and *mortal* belongs universally to our cognition of *human*. Now, the first thing to notice about this derivation is that, in recognizing it, I perform exactly the sort of act in which cognition generally consists: I grasp the unity in which a manifold of given representations stands and thereby comprehend the source of the objectivity of a certain combination of that manifold. The manifold, in this case, consists of the concepts *scholar* and *mortal*; I grasp the unity of these elements by seeing their relation to the condition embodied in the concept *human*. A proof thus traces the rightness of a certain combination of elements to a rule under which they stand. But precisely this is the basic act of cognition as Kant conceives it. For, as we have seen, cognition in general is “the determinate relation of given representations to an object” by the bringing to bear of concepts, which are representations whose function is precisely to serve as *rules* for combining manifolds (B137, cf. A97, A106). The pattern of argument Kant privileges is thus a pattern by the application of which we make our body of cognitions more fully what all cognition, by its very nature, aims to be.²⁸

Admittedly, not every argument that is syllogistic in form grounds cognition of its conclusion in this sense. In order for a syllogistic argument to do this, the major premise on which it depends must be *cognitively more fundamental* than the fact it serves to prove. There is an ancient

²⁸ Compare A305/B361: “[R]eason, in inferring, seeks to bring the greatest manifold of cognition of the understanding to the smallest number of principles (general conditions), and thereby to effect the highest unity of this manifold.”

objection to syllogistic reasoning, apparently due to Sextus Empiricus, which maintains that no syllogism can ever be a genuine proof, since any argument that proceeds by applying a general rule to a particular case must involve a *petitio principii*.²⁹ For, the objection runs, we must know the general rule somehow; but how can we know it without already knowing how things stand with respect to the cases to which it applies? A rule holds generally only if it holds in all cases, so to know that it holds generally, we must know that it holds in every case. So, it seems, knowledge of the rule presupposes knowledge of the cases and cannot supply an independent ground for the latter knowledge.

If this objection is sound, then the syllogistic conception of cognition from fundamental principles makes an impossible demand. But the objection really just brings out what must be the case if such an argument *is* to capture the grounds of our cognition: namely, there must be rules whose truth is knowable independently of knowing how things stand in the cases that fall under them. The rules in question must, that is, be what Kant—following a long philosophical tradition—calls “principles”: synthetic, general judgments whose truth is knowable “from concepts,” rather than from the intuitive presentation of subordinate cases (cf. A301/B357–358).³⁰ Kant himself observes that not every general proposition which can stand as the major premise of a syllogism has this character:

Any general proposition, even if it is taken from experience (by induction), can serve as the major premise in a syllogism; but it is not therefore itself a principle. (A300/B356)

Hence, not every valid syllogism exhibits the cognitive ground of its concluding judgment. Nevertheless, the syllogistic *form* of argument is the form that genuine proofs must take, for an argument must have this form if it is to present a particular combination of concepts as *determined* by a

²⁹ *Sextus Empiricus. Outlines of Skepticism*, trans. and ed. Julia Annas and Jonathan Barnes (New York: Cambridge University Press, 2000), II, §163.

³⁰ Compare KpV V.26, MN IV.467–469. Note that Kant holds that even the pure principles of the understanding discussed in the *Analytic of Principles* of the first *Critique* are not “principles absolutely,” since our cognition of them depends on pure intuition. Absolute principles would be synthetic general judgments which were knowable by pure reason; other synthetic general judgments may be called principles *relative* to certain cases just insofar as they articulate an explanatorily more fundamental rule that determines how things stand in those cases (cf. A300–301/B356–358). Although our understanding is not capable of attaining to cognition of absolute principles, Kant maintains that the drive of our cognition is always toward a more relatively principled understanding of what we know. Thus the notion of an absolute principle represents an ideal that our cognition approaches asymptotically but never attains.

more general law and thus as necessary. And this, if my reading is correct, is exactly why Kant's logic privileges this form of argument: because it captures the fundamental form in which inference *can* contribute to cognition.

We should note, finally, a connection between this general conception of cognition and the idea that the function of acts of cognition is to contribute to a unified, self-sustaining body of cognition. Inasmuch as the understanding always seeks to find the source of the particular and contingent in the general and necessary, its drive is always toward systematizing our cognition by bringing diverse particular cognitions under ever-more-general principles and thus representing our total view of the world, to the greatest extent possible, as consistent, nonarbitrary, and noncontingent. But to the extent that the understanding accomplishes this, it also represents its body of cognitions as ever more *self*-determined, for insofar as it finds necessary grounds for apparently contingent combinations of representations, it represents these combinations as required of it as such, in virtue of its own laws.³¹ The drive of the understanding, then, is always toward seeing its postures as ever more fully self-determined—and, by the same token, as having an ever greater share of necessity. The finitude of our cognition makes *complete* cognitive self-determination an unreachable ideal for us, but it is nevertheless an ideal that constantly regulates our thinking; and seeing this is, I believe, crucial to seeing what Kant means when he characterizes logic as the science of “the necessary laws of the understanding.”

5.4. Where does our discussion leave Conant's account of Kant's conception of logic? It should, I think, lead us to regard Conant's account not as objectionable, but as in need of supplementation. Conant is right to insist that Kant sees logic as concerned with principles “constitutive of the possibility of thought”—or, as I would prefer to say, of the understanding, the power of thought in the service of cognition. He is right to emphasize how this sets the subject matter of logic apart from those of empirical psychology on the one hand and speculative metaphysics on the other. And he is right, finally, to connect these points with Kant's claim that logic is concerned with the “mere form” of thinking. The significance of these formulations depends crucially, however, on what is meant by “thought”

³¹ Thus, Kant says that in representing a proposition as apodictic, we “think [it] as determined through the laws of the understanding itself” and thus “incorporate [it] into the understanding” (A76/B101).

or “understanding” and on what is involved in grasping its “form.” My aim has been to bring out how Kant’s answers to these questions depend on a specific way of thinking about our cognitive faculties and the ends they serve, a way that has a powerful coherence in its own right, however far it may stand from contemporary ways of thinking about the subject matter of logic.³²

³² An earlier version of this paper was presented at the “Kant on Logic” session at the 2009 Meeting of the Central Division of the American Philosophical Association. I am indebted to Lanier Anderson for incisive and helpful comments on that occasion. I have also been greatly helped by conversations about these topics with Alp Aker, Ian Blecher, Jim Conant, Steve Engstrom, Wolfram Gobsch, Matthias Haase, Andrea Kern, Thomas Land, Alexandra Newton, Daniel Sutherland, and Charles Travis.

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