Kant and the Normativity of Logic[1]

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1. Introduction

In Kant's logic corpus, we frequently come across the claim that logic concerns how we ought to (*sollen*) think.[2] Call this claim the '*sollen* claim'. It is often cited as evidence that Kant holds a normative conception of logic. Commentators vary in how they describe the way in which Kant's logic is 'normative', though. Consider these examples:

> Kant's claim that logic is a *normative* discipline …. Just as the throwing of a baseball does not count as a *pitch* unless it is liable to assessment in light of the rules of baseball, so no cognitive activity counts as *thought* unless it is liable to assessment in light of the laws of logic. (MacFarlane 2000: 54)

> To say that logic is normative is to say that humans *ought* to reason soundly or validly (more generally, cogently).… Logic [according to Kant and later Boole and Frege] tells us *how we ought to reason or think in every possible set of circumstances because this is required by the nature of rationality*. So logic is intrinsically categorically normative … logic is a moral science. (Hanna 2006: 85–87)

> [For the early modern logicians influenced by Antoine Arnauld and Pierre Nicole, authors of the Port-Royal Logic] logic is not just preoccupied with the way we happen to think, but establishes norms for thinking *well*. But Kant is more explicit than they are about the normative character of logic: logic, he says, does not concern the way we think but the way we ought to think. (Longuenesse 2006: 137)

We can detect two kinds of logical norms—'evaluative norms' and 'imperatival norms'—in MacFarlane's and Hanna's accounts, respectively. These norms have different targets. The evaluative norms are standards by which to *assess thoughts* regarding their logical properties. The imperatival norms prescribe how an *agent* ought to conduct herself in her epistemic activities and are analogous to the moral ones, to the extent that an agent can be praised or blamed—in the name of rationality—for thinking in accordance with or contrary to those laws.[3] We

shall see that these two kinds of logical norms also differ in content. As for Longuenesse's claim that logic 'establishes norms for thinking *well*', it is vague enough to accommodate both kinds of norms. What makes her approach special, however, is the historical sensitivity in her attempt to connect a normative reading of Kant's logic with one of the most influential pre-Kantian logical traditions. (I shall return to this point shortly.)

Even with the distinction between two kinds of logical norms, we still do not have a well-defined question as to whether Kant sees logic as normative. For 'logic' does not have a fixed reference in his logic corpus. In the *Critique of Pure Reason*, for instance, we can trace out both a broad notion of logic and a narrow one. Logic in the broad sense contrasts with aesthetic, based on the distinction between sensibility and understanding: if aesthetic is 'the science of the rules of sensibility in general', logic is 'the science of the rules of understanding in general' (A52/B76). Logic in this sense is divided into 'the logic of the general [and the logic] of the particular use of the understanding'. General logic in turn has two parts: pure and applied logic. Pure logic is 'the part that is to constitute the pure doctrine of reason', which is 'completely *a priori*' and 'draws nothing from psychology', whereas applied logic is 'directed to the rules of the use of the understanding under the subjective empirical conditions that psychology teaches us' (A52–54/B76–78). When investigating the conditions that allow logic to travel 'the secure course of a science' (Bvii), however, Kant refers only to logic in the narrow sense, as 'the science that exhaustively presents and strictly proves nothing but the formal rules of all thinking … whatever contingent or natural obstacles it may meet with in our minds' (Bix). Logic in this sense is equivalent to pure logic, for the latter 'alone is properly science' (A54/B78).

A typical inquiry about whether Kant holds a normative conception of logic focuses on pure logic, neglecting applied logic as though it had nothing to do with the issue of normativity. This practice is understandable, given how Kant's logic corpus is commonly treated. The corpus includes four categories of materials: (a) the *Logic* compiled by G. B. Jäsche, (b) Kant's handwritten notes on logic, (c) transcripts of his logic lectures, and (d) works he himself prepared for publication that contain substantive remarks on logic—particularly *The False Subtlety of the Four Syllogistic Figures* (*False Subtlety*) and the *Critique*. It is well recognized that (a)–(c) are affected by various philological problems.[4] This leaves (d) as the only sure source from which to get Kant's considered views on logic. Pure logic is central to both *False Subtlety* and the *Critique*. Applied logic does not figure in *False Subtlety* at all, while in the *Critique*, Kant mentions it only to set it aside. No wonder, then, all the commentators mentioned so far have limited their discussions to Kant's pure logic.

This limiting approach is problematic in multiple ways. Just because Kant's logic lectures etc. have philological problems, it does not follow that topics treated in them but not in (d) do not deserve serious consideration. In fact, Kant's logic lectures contain his most extensive and in-depth discussions of logic broadly construed, discussions that together attest to his reflective awareness of and critical engagement with the previous developments in logic. Moreover, Kant is a

problem-driven philosopher who tends to highlight different aspects of the same subject in different contexts, depending on what problem(s) he is occupied with in each case. If his account of logic in the *Critique* is brief and quickly zeros in on pure logic, it is because there he is interested not so much in logic *per se* but in using it as a springboard for further inquiries about the possibility of experience, etc. On the other hand, if the better part of his logic lectures is devoted to applied logic, it is so no less by design—as we can gather from *M. Immanuel Kant's Announcement of the Program of his Lectures for the Winter Semester*, 1765–1766. (I explain this design and its implication for logical normativity in §3.) Hence, if a topic or viewpoint —e.g., that of applied logic—is explicitly taken up in the lectures but not in the *Critique*, the discrepancy should not keep us from taking it seriously.

Most importantly, only by including the perspective of applied logic can we sort out whether Kant holds a normative conception of logic in both the evaluative and the imperatival sense sketched above. In that regard, it will be especially instructive to consider not only Kant's reasons for a sharp distinction between pure and applied logics but also how he would eventually join them together. Both the initial distinction and the final connection between the two logics will bear directly on the issue of normativity and together capture the key aspects of Kant's position that make it original. If Longuenesse was right in linking Kant's normative notion of logic to a previous logical tradition, the link is not as straightforward as she portrayed it. Kant is not simply 'more explicit' than Arnauld and Nicole or their followers about the normative nature of logic. Rather, he seems exceptionally attuned to and incisive in addressing the philosophical questions involved in the normative treatment of logic—viz., questions about what kind of norms can be drawn from what sort of logic and whence logical norms derive their authority.

I develop these points in what follows. I proceed with the belief that if we are to make any real progress in figuring out whether Kant holds a normative conception of logic, it is necessary to expose the fundamental confusions and limitations in the current literature on both sides of the issue. My own view is that Kant's logic can be interpreted as normative in both the evaluative and the imperatival sense. Outlines of this view will emerge gradually from my analysis. My ultimate goal, though, is to uncover many of Kant's so far overlooked philosophical insights about logical normativity and to clear the ground for further discussion.

2. Pure Logic and Evaluative Norms of Thought

2.1. A Challenge to the Standard Normative Interpretation

Tolley has made the only concerted effort in the current literature at refuting the standard normative interpretation of Kant's logic on both textual and philosophical grounds.[5] Although Tolley's argument will prove questionable at critical points, it serves effectively to reveal the inadequacy of the standard interpretation and alert us to great complexities of the question of whether Kant's logic is normative. Whoever wishes still to defend the normative reading must be

prepared to answer Tolley's challenge and, in so doing, to clarify what sort of norms can be drawn from which part of Kant's logic (in the broad sense). With this recognition of its dialectical role, I structure much of my discussion below around a critical analysis of Tolley's argument.

The gist of Tolley's argument against the standard normative interpretation is that it conflicts with two of Kant's deeply held philosophical commitments. The first commitment pertains to normativity in general. Based on Kant's view that moral laws are normative—in the imperatival sense—for finite but not divine rational beings, Tolley sets down the following condition of normativity: a law is normative for an agent only if she is the kind of being who can violate it in practice. Accordingly, if logical rules are to be normative for us, we must be able to think contrary to them, that is, to think illogically. Kant's second supposed commitment is that logical rules are constitutive of thinking in general (*überhaupt*). On Tolley's reading, this constitutive feature of logical rules entails that to think *at all* is to follow them. Illogical thinking is therefore impossible 'in the strongest sense of the term': *thinking* and *being illogical* are conceptually incompatible. Hence, Kant could not have treated logical rules as normative (Tolley 2006:383).

This argument involves three debatable moves. Firstly, it infers from the view that logical rules are constitutive of thinking in general to the claim that illogical thinking is impossible *tout court*. Secondly, it confines the opponent to the view that logic directly prescribes laws of thinking in the form of imperatives similar to moral laws. Finally, Tolley will try to hollow out the *sollen* claim (i.e., the claim that logic concerns how we ought to think) and thereby preempt any further effort at making sense of it (§2.4). I shall counter these three moves in turn.

2.2. Two Kinds of Pure–Logical Rules and the (Im)possibility of 'Illogical Thinking'

'Thinking', as a notion in Kant's pure logic, does not designate a natural movement that takes place in a thinker's mind, but the essential capacity of human under-standing. It consists in unifying representations by bringing them under rules. The resulting thought has both matter and form: the given representations constitute its matter, while its form is the way in which they are combined into one representation. Pure logic considers only the form of a thought, assuming its matter as 'given to [the understanding] from elsewhere' (A76/B102).[6]

Accordingly, the pure–logical rules of thinking first include those that determine the acts of understanding by which thoughts are formed. The understanding, as the faculty of spontaneity or 'faculty for bringing forth representations itself' (A51/B75), can combine a multitude of given representations to form a single unified representation—but only if the combination accords with certain rules. Call such rules 'structural rules'.[7] In Kant's view, three types of thought originate in the understanding as to form, namely, concept, judgment, and inference.[8] They correspond to different structural rules.

Every concept—as regards its form qua 'universal representation'—is 'made' (Log, 9: 91, 93). It is 'grounded on the spontaneity of thinking' (A68/B93), whereby given representations are 'transform[ed] … into concepts' (A76/B102). The rules

that determine the 'logical *actus* of the understanding' in this transformation—comparison, reflection, and abstraction—constitute 'the essential and universal conditions for generation of every concept whatsoever' (Log, 9: 94; V-Lo/Wiener, 24: 907–10). Similarly, a judgment represents a unified relation among multiple representations: the given representations comprise its matter, and their manner of combination is its form.[9] The rules for this combination boil down to the first 3 × 3 moments in Kant's Table of Judgments: quantity (singular, universal, particular), quality (affirmative, negative, infinite), and relation (categorical, hypothetical, disjunctive) (A70/B95). They describe the basic modes of the act of the understanding whereby any judgment whatsoever may be generated. (I shall explain the structural rules for inference later.)

Next, there are veridical rules that determine whether it is logically possible (1) for a concept to *represent something*, (2) for a judgment to be *true*, or (3) for an inference to be *cogent*. For (1) and (2), there is the principle of contradiction: no two contradictory concepts can be said of the same thing.[10] The putative object represented by a concept—in the sense of an object in general =x—can be *something* or *nothing*, *possible* or *impossible*, 'for an object can be thought through impossible predicates' (V-Met/Mron, 29: 811; A290/B346). It is possible in the logical sense just in case there is no contradiction among the constituents of its concept. By contrast, if a concept—e.g., 'four-cornered circle'—is self-contradictory, then its putative object =x is logically impossible and so amounts to *nothing*. In case one finds it 'striking to think of an object that comprises a nothing', Kant explains that 'a nothing also presupposes only a thought [of an object =x] which then cancels itself, {i.e., which contradicts itself}' (V-Met/Vigil, 29: 960–61; A291–92/B348).

Likewise, one can inquire about the 'logical possibility' of a judgment, which along with 'logical actuality' and 'logical necessity' signifies one of its three logical modalities with respect to truth (A75–76/B100–1; Log, 9: 51–53; V-Lo/Dohna, 24: 719). To say that a judgment is logically possible is just to say that it satisfies the necessary formal condition to be true, the condition being non-contradiction. A judgment that contradicts itself is again 'nothing', for 'contradiction entirely annihilates and cancels' it (A150–51/B189–90; V-Lo/Wiener, 24: 823). This is not to say that the principle of contradiction is a condition for any judgment to be formed *at all*. Rather, saying a self-contradictory judgment is 'nothing' is no more than saying that it is 'false' (V-Lo/Wiener, 24: 826; A59–60/B84).

As for rules of (syllogistic) inference, the traditional Aristotelian theory recognizes 256 possible ways of constructing a categorical syllogism (4 figures, 64 moods each), 19 of which result in a valid form of inference. Similarly, Kant classifies possible forms of (categorical) syllogism in terms of various figures and moods, and then inquires about the principle (*principium*) by which a syllogism in a particular figure and mood can be proven valid or invalid—that is, true or false *in forma* (V-Lo/Hechsel, LV 2: 455). He thereby recognizes two kinds of formal rules pertaining to syllogism—structural rules, by which a syllogistic inference can be constructed at all, and veridical rules, which determine whether a given form of syllogism is valid. As an example of structural rule, Kant says: 'The rule of the *first figure* is that the *major* be a *universal* proposition, the *minor*

an *affirmative*.' (Log, 9: 126) As for veridical rules, Kant argues that they boil down to two basic ones, which pertain to affirmative and negative inferences respectively: 'What belongs to the mark of a thing belongs also to the thing itself; and what contradicts the mark of a thing contradicts also the thing itself (*nota notae est nota rei ipsius; repugnans notae, repugnat rei ipsi*).' (Log, 9: 123; V-Lo/Blomberg, 24: 283; V-Lo/Dohna, 24: 773).

Given this distinction between structural and veridical rules, we can see what is wrong with Tolley's move from the claim that logical rules are constitutive of thinking in general to the conclusion that illogical thinking is absolutely impossible. The move is a *non sequitur*. By my analysis, both structural and veridical rules may be seen as constitutive rules of thought, but in significantly different ways. The structural rules are necessary for any thought to be *formed at all*. The veridical rules constitute the additional formal conditions for a concept *to represent something*, for a judgment *to be true*, and for a syllogism *to be cogent*. What satisfies the structural rules may not meet the formal conditions of veridicality. To claim otherwise is to make nonsense of Kant's view that a judgment can be logically false or that an inference can be invalid. Thus, if illogical thinking is impossible with regard to the structural rules, it is indeed possible—at least in theory—respecting the veridical rules.

Tolley is referring precisely to the veridical rules, though, when he contends that illogical thinking is conceptually impossible within the Kantian framework. For textual evidence, he first cites Kant's claim that whatever violates the principle of contradiction is *nothing*, taking it to mean that the principle is necessary *if there is to be thought at all* (Tolley 2006:384). As I have explained, however, when Kant states that a self-contradictory thought is 'nothing' he is concerned more with the veridicality of a thought than with the condition of its existence.

As for inference, Tolley interprets Kant as holding that rules like *nota notae est nota rei ipsius* 'simply *define* what thought *qua* "inference" *is*' and so 'provide the canon for distinguishing inference from *non*-inference' (Tolley 2006: 391). Tolley bases this reading on Kant's account of syllogism in the *False Subtlety*. A different reading is in order, however, if we note that the object of Kant's inquiry in that essay is not how to construct a proper syllogism, but how to view the relation among the four figures identified in the traditional Aristotelian logic. He takes a position that he knows is controversial, which concerns the ultimate principles of *valid* syllogisms. He identifies exactly two such principles, as I mentioned earlier: (A) *nota notae est nota rei ipsius*, and (B) *repugnans notae, repugnat rei ipsi*. Having established these principles as the immediate ground of validity for syllogisms in the first figure, Kant argues that syllogisms in the other three figures must be somehow transformed to the first and then proven valid or invalid according to (A) and (B) (DfS, 2: 50–53). To illustrate, consider this inference in the second figure:

No mind is divisible;
All matter is divisible;
So, no matter is a mind.

On Tolley's reading, this triad of propositions only *appears* to constitute an inference, but really it does not (Tolley 2006: 391). Kant himself never denies that the

triad makes up a genuine inference. Rather, he recognizes it as a valid inference and investigates what *grounds* its validity, namely 'what gives it its power to establish the conclusion'. His finding: it is only thanks to a tacit conversion—from the stated major premise to 'nothing divisible is a mind', whereby the inference is turned into the first figure—that the given triad represents a valid inference (DfS, 2: 52).

In brief, as textual evidence goes, Kant's considered view is not that illogical thinking is impossible *tout court* but that it is impossible vis-à-vis the structural rules, which constitute the necessary condition for the formation of any thought whatsoever. Nonetheless, we are far from ready to draw any conclusion about whether pure–logical rules are normative according to Kant. We have yet to clarify the relevant notion of normativity. Tolley inquires into the possibility of illogical thinking because his target is logical normativity in the imperatival sense, which in his view presupposes our ability to violate logical rules while thinking. Before I discuss the prospect of drawing imperatival norms from Kant's logic, I shall first explain how he treats pure–logical rules as evaluative norms, a treatment that will turn out to be philosophically significant on its own right.

2.3. Constitutivity and Normativity

Tolley views constitutivity and normativity as mutually incompatible for Kant, so that logic must be either constitutive or normative but not both. On MacFarlane's reading, to the contrary, 'constitutive normativity' is a key notion in Kant's theory of logic (MacFarlane 2000: 86). On this reading, logical laws 'provide constitutive norms for thought *as such*', so that 'to count an activity as thinking at all is to hold it assessable in light of the laws of logic' (MacFarlane 2002: 37; 2000: 159).

It is not easy to pinpoint MacFarlane's argument for this constitutive–normative interpretation, as he moves among different senses of normativity without noting the differences. Earlier I quoted him suggesting that Kant's logic is normative in that it provides standards for evaluating thoughts (§1). Occasionally, though, he also presents his normative reading in unmistakably imperatival terms: logical rules are necessary 'in the sense that they are *unconditionally binding* norms for thought', which is comparable to 'the sense in which Kant calls the categorical imperative "necessary" ' (MacFarlane 2002: 43). MacFarlane gives little direct textual evidence other than the *sollen* claim for ascribing this imperatival notion of logical normativity to *Kant*. Instead, to flesh out how constitutive rules of thinking imply imperatival norms he mostly cites Frege, who supposedly shares Kant's 'core idea' of logical laws qua constitutive norms (MacFarlane 2000: 172). From Tolley's standpoint, this interpretative strategy is question-begging. One cannot just assume that Kant's notion of normativity is essentially the same as Frege's or that the *sollen* claim found in Kant's logic corpus straightforwardly lends itself to the imperatival reading or, for that matter, to any sense of normative reading at all.

To obtain cleaner evidence for attributing to Kant a normative treatment of pure–logical rules, I suggest that we turn to his account of (pure) logic qua 'doctrine' and its use for 'critique'. This account will indeed point to a significant

tie between the constitutivity and normativity of pure–logical rules, but only in the evaluative sense of normativity.

When Kant argues that logic is essentially a doctrine, he is taking a stand on the historical controversy about the nature of logic, viz., about whether it is an organon (instrument) or a science (theory, canon).[11] He connects the doctrinal nature of logic with the need to establish the universal rules of thinking.

> Now if logic is to be a science of the universal laws of the understanding, then these must be necessary rules, because … without them nothing at all can be thought. All necessary rules must be derived *a priori.* … A science that rests on *principia a priori* is called a demonstrated science. …. Logic is thus a demonstrated science. A science that can be taught from *principia a priori* is called a *doctrina,* consequently logic is one too. (V-Lo/Wiener, 24: 792-93)

Here Kant is referring to pure but not applied logic, for only the former rests on *a priori* principles (§1). Pure logic is in essence a mere theory, in which the necessary rules of thinking in general are demonstrated and articulated. Those rules can nevertheless be *used* as the 'norm for critique' (Refl 1601, 16: 32) or 'for the assessment of all use of the understanding in general, although only of its correctness in regard to mere form' (Log, 9: 15; V-Lo/Dohna, 24: 696; A59–60/B84).

> Because it [logic] is to be a touchstone and is to precede our understanding it is a doctrine. Critical assessment [*Beurtheilung*] always presupposes a doctrine. Logic is not a critique at all, then. It serves for that purpose [*dient … dazu*], though. (V-Lo/Wiener, 24: 793)

In other words, logic qua doctrine provides 'the ground of assessment' respecting the formal correctness of all thoughts (V-Lo/Dohna, 24: 694).

In these terms, the constitutivity and evaluative normativity of pure–logical rules stand in a grounding relation. The doctrinal logic—whereby specific logical rules are demonstrated as what constitute the necessary formal conditions of thought—grounds the use of those rules as evaluative norms for all thoughts as regards their formal correctness. That is, such rules (e.g., the ones mentioned in §2.2) are *entitled* to this normative role only insofar as they have been established in pure logic as constitutive of all possible thoughts. (I shall say more in §2.4 about why Kant should emphasize this point.) Take a syllogistic inference for instance. In its formal assessment, one first determines its form (if it is a genuine syllogism) by relevant structural rules, and then proves it as valid or invalid in accordance with suitable veridical rules. From Kant's perspective, there is no other way to ascertain whether the inference is valid—provided pure logic has exhaustively presented and strictly proven all necessary rules of thinking in general (§1), including the structural and veridical rules of syllogism.

If pure logic thus provides evaluative norms, it is far from clear whether we can also draw imperatival norms from the same logic. As I indicated in §1, there is a notable difference between evaluative and imperatival norms. When pure–logical rules serve as evaluative norms in the way described above, what is under

assessment is a *thought*, which is said to have such and such a form and to be *valid*, *false*, etc. By contrast, an imperatival norm would be directed at an *agent* who can be properly *praised* or *blamed* for acting in accordance with or contrary to it. Accordingly, if it were possible to transform pure–logical rules into imperatival as well as evaluative norms, different processes would be involved in the two cases. Kant's account of the relation between logic qua doctrine and its use for critique suggests that the constitutive rules of thinking, once articulated in pure logic, can immediately serve as evaluative norms without any change in formulation. On the other hand, the same rules could at best be incorporated into imperatival norms, which, because they must be addressed to a class of agents, would take a fundamentally different shape than the original rules. For a pure–logical rule R, the corresponding imperative would be formulated roughly as follows: 'You ought to think in accordance with R.'

The question is whether it makes sense to prescribe such an imperative to agents like us. The issue, as Tolley makes it clear in his objection to the standard normative interpretation, comes down to whether we are the kind of beings who can be meaningfully praised for following R or otherwise blamed for violating it. According to Tolley, Kant is committed to the view that the language of 'ought'—taken in the imperatival sense—is inapplicable to the relation between logical rules and the logical subject or 'thinker'. Tolley argues by analogy. Using the moral law as the paradigm of an imperatival norm, he explains how on Kant's account this law can stand in different relations with different types of subjects. On the one hand, it is non-normative for beings with a holy will. Such beings, due to their essential constitution, simply cannot fail to fulfill the demands of morality. Therefore, as Kant puts it, 'the "ought" is out of place here' (GMS, 4: 414; 449). On the other hand, the same law is imperatival for beings like us, who can freely choose to act contrary to it. Now we ask

> whether things in the logical sphere look more like one or the other type of relation between moral law and moral subject—whether … the logical subject (the "thinker") should be viewed on par with a composite (e.g., human) being, or instead on analogy with a "pure" being with a holy will; whether it is more like a collective of possibly competing capacities, or rather a being constituted out of a single one. (Tolley 2006: 379)

Tolley settles on the logical subject being the *Verstand überhaupt*. He argues: since Kant's (pure) logic considers this faculty in abstraction from all other capacities (e.g., sensibility and volition), the relation between logical rules and the logical subject can be compared only to that between the moral law and the holy being. Just as the latter being would always have its will determined by the moral law, so would the logical subject always think in accordance with logical laws— precisely because such laws are constitutive of its capacity to think. The language of *ought* is out of place in both cases. Therefore, Kant is not committed to treating the relation between the logical subject and logical laws as normative in the imperatival sense (Tolley 2006: 377–86).

Although this argument partly builds on the faulty claim that illogical thinking is conceptually impossible (§2.2),[12] it has clarified one thing for us: it would be pointless to command *purely intellectual* beings to follow logical rules, for such beings—because of their subjective constitution—would never deviate from those rules in the first place. It remains to be seen whether it would make sense to prescribe the same command to *impure* beings like us, who have sensibility as well as understanding. The standard normative interpretation seems to be precisely concerned with such impure subjects. Tolley's challenge has nevertheless made clear that, as long as one's purview is limited to Kant's pure logic, one will not have enough conceptual apparatus to establish an imperative relation between logical rules and beings like us. For this purpose, it is necessary to consider Kant's applied logic, as I shall do in §3.

2.4. The Message of the Sollen Claim

Now it is time to examine the *sollen* claim in Kant's logic corpus, the claim that logic treats how we 'ought to' think. This examination will give us an opportunity further to clarify the historical context for, and to appreciate the philosophical point of, Kant's emphasis on pure logic being a 'doctrine' before the rules presented thereby can serve as the universal standard for the formal assessment of all our thoughts.

Notably, the *sollen* claim occurs frequently in Kant's logic lectures but not in the works he himself prepared for publication. Tolley takes this textual discrepancy to suggest that the claim persists in the former texts merely as 'an unreconstructed trace of Kant's intellectual heritage' and so cannot be taken seriously as evidence that he subscribes to the normative conception of logic (Tolley 2006: 394). This reading has two basic problems. First, just because the *sollen* claim—precisely as it is worded in the logic lectures—does not appear in, say, the *Critique*, it does not follow that the point conveyed thereby is also absent from the latter. Second, if the *sollen* claim does indicate influences of certain pre-Kantian intellectual traditions, its repeated occurrences in Kant's logic corpus suggest that it must be more than an 'unreconstructed' remnant of those influences—especially since, as we shall see, he consciously and critically engages other logical theories in the same texts. In the analysis that follows, I will show that the *sollen* claim in fact encapsulates the central point of Kant's theory of logic, the point that sets it apart from some of the most influential logical traditions at the time, and that the same point is also salient in the *Critique*.

In many places where Kant stresses that logic studies how we ought to but not how we do think, he is clarifying the subject matter of logic qua strict science. In his view, this logic must be *logica artificialis* as opposed to *logica naturalis*.

> Every man observes the rules before he can reduce them to formulas.… The complex of all these rules is called *logica naturalis*. The science that expounds these rules systematically [is called *logica*] *artificialis*.… This division is bad because logic is held to be the complex of rules of the

understanding that we employ without being conscious. Since we do not know these rules, however, there cannot be a science.… For us, then, only *logica artificialis* is ever called logic. (V-Lo/Wiener, 24: 791)[13]

Scientific cognition is systematic and therefore 'rests on an idea of the whole, which precedes the parts' (Log, 9: 72). Thus, to have scientific cognition of x, one must not only be conscious of x but also have reflected on the idea or grounding principle (*principium*) from which it can be demonstrated. To that extent, 'all science is artificial' (V-Lo/Dohna, 24: 694). Therefore, logic qua science can only be *logica artificialis*.

The rules of thinking presented in the scientific logic are supposed to be 'formal' (Bix; Refl 1624, 16: 42), 'absolutely necessary' (A52/B76; Log, 9: 13), 'universal' (A59/B84; Refl 1620, 16: 41), and 'pure' (Refl 1603, 16: 33). As such, they 'must be cognized *a priori*, independently of the natural use of the understanding and of reason *in concreto*' (Log, 9: 17). Even though logic 'does not precede use' insofar as the latter 'contains the first acts [*Handlungen*] of the understanding', logical rules are still a priori in that they constitute the formal 'ground' of those acts (Refl 1602, 16: 31–32). A systematic exposition of such rules must then begin with an analysis of the understanding with respect to its essential function *in abstracto*, namely, thinking or the act of relating a multitude of given representations in one.[14] The abstraction is threefold—from all contingent psychological conditions of the thinking subject, from all differences among the objects of thought, and from whether an object of thought may be cognized empirically or a priori. The result is pure logic, which differs from applied logic, special logics, and transcendental logic, respectively (A52–57/B76–82).

By this analysis, the distinction between a theory of how we *ought to* think and that of how we *in fact* think comes down to a contrast between different ways to study thinking. One may investigate it either in abstraction from or considering the empirical subjective conditions under which we think. The first approach leads to the cognition of *necessary* rules, which constitute the formal conditions of any possible thought. The latter approach gives rise only to *contingent* rules, which describe how we—as human beings—tend to exercise our faculty of thought under certain empirical–psychological conditions.[15] It is precisely in terms of such a distinction that Kant divided general logic into pure and applied parts in the *Critique*: while applied logic 'has empirical principles [*Principien*]', pure logic has no such principles and so 'alone is properly science' (A53–54/B77–78). Thus, as a claim about the proper subject matter and about the ground or 'principle' of logic qua science (i.e., pure logic), the *sollen* claim is not truly absent from the *Critique*.

So construed, the *sollen* claim expresses the exact point where Kant departs from a philosophical tradition according to which logic investigates the actual workings of our faculty of thought. He says:

We can divide the laws of our understanding in the following way[:]

1. Rules for how we think.

2. Rules for how we ought to think.

> *.… Some logicians presuppose psychology in their logic.* Since this is an empirical science, there would arise from this a science of how we think under various hindrances, not of how we ought to think. There would be nothing but contingent and natural laws. But that is not what we are asking about. *Logical rules must be derived from the necessary use of the understanding*. (V-Lo/Wiener, 24: 791–92, my italicization)

Likewise in the *Critique*, Kant singles out 'some moderns' for attempting vainly to expand logic 'by interpolating psychological chapters … or anthropological chapters about our prejudice'—prejudice being a chief hindrance to the proper use of the understanding *in concreto*—and traces all such attempts to 'ignorance of the peculiar nature of this science' (Bviii).

The conception of logic conveyed through these remarks has significant implications for the topic of normativity. What is at issue is not whether logical rules are normative but rather, provided they are, whence their authority comes. The italicized propositions in the passage quoted above captured Kant's main thought on this issue. If he held that specific logical rules—viz., the ones outlined in §2.2 —serve as norms for the formal assessment of all our thoughts, he must defend the position against skeptics like Locke, who challenged the claim that the Aristotelian syllogistic set the *universal* standard of proper reasoning. Looking at how Kant would answer the challenge, of which he was evidently aware, and how his response might stand out as special—particularly in comparison with the response by Leibniz to the same challenge—will add to our understanding of his view that pure–logical rules are entitled to their function as evaluative norms only thanks to their constitutive character.

Locke objects to the view that syllogism is necessary for the proper use of the faculty of reason in general. His objection proceeds from the observation that many people 'Reason exceeding clear and rightly, who know not how to make a Syllogism' and that 'scarce any one ever makes Syllogisms in reasoning within himself'. For Locke, this fact suggests that God has given us 'a Mind that can reason without being instructed in Methods of syllogizing', namely 'a native Faculty to perceive the Coherence or Incoherence of its ideas, and can range them right, without any such perplexing repetitions' (Locke 1975: 670–71).

Leibniz counters this argument by pointing out that we cannot always easily see whether one thing follows from another. Especially, while assessing other people's argument, we may be 'over-impressed … by enthymemes which wrongly assume that the propositions they suppress are evident, and even by faulty inferences', and unsure about their validity 'until a demonstration is given' according to formal-logical rules. Hence, it is necessary to 'have a strict logic', of which syllogism is a central part. Thus, if Locke was right in observing that 'the common run of men know nothing about logic as an art and that they nevertheless reason as well as … people who are practised in logic', syllogistic rules are not therefore

unnecessary: those people can never be *certain* about the validity of any inference, since they are unable to *prove* it (Leibniz 1996: 481–82).

On Leibniz's own account, formal–logical rules are constitutive of the inherent structure of the human mind and determine all possible use of the human intellect. This claim of constitutivity, Leibniz argues, is compatible with Locke's observation that we commonly use our intellectual faculties without consciously applying those rules.

> There are principles of knowledge which enter into our reasonings as constantly as practical ones enter into our volitions; for instance, everyone makes use of the rules of inference through a *natural logic*, without being aware of them. (Leibniz 1996: 91)

Leibniz contrasts 'natural logic' with 'logic as an art'. This contrast explains the difference between the common people, who can reason well in ordinary circumstances without consciously applying the formal rules on which the cogency of their reasoning depends, and those who are skilled in logic and can therefore prove their reasonings as cogent. The same logical rules are involved in both cases, however, which 'are nothing but the laws of good sense, set into order in writing'. Articulating logical rules then amounts to uncovering the natural and constant laws of the human mind and presenting them in abstract terms, whereby they are 'reduced to the bare bones of "logical form" ' (Leibniz 1996: 480).

From Kant's perspective, both sides of this controversy about the normative status of syllogistic rules have presupposed psychology, albeit different kinds of psychology—empirical psychology by Locke, and rational psychology by Leibniz. Logic for both is essentially a *logica naturalis*, representing the actual constitution of the human mind that ultimately depends on God. Locke and Leibniz have therefore addressed a *quaestio facti* about whether or how we possess knowledge of certain logical rules, but not the *quaestio juris*, which concerns the legitimacy with which specific logical rules may serve as the universal standards for the formal assessment of our thoughts.[16] These two questions correspond to different methods: a psychological one (physiology of human reason) versus a true critique of pure reason (V-Met/Mron, 29: 763–4). The latter method is a transcendental inquiry about the conditions that make a certain kind of cognitive activity possible. (The paradigm of this inquiry is Kant's transcendental deduction of categories.) For Kant, specific logical rules can be established as strictly universal norms for the formal assessment of our thoughts only by a transcendental approach, whereby they are derived a priori as the necessary conditions of thinking in general—much as categories are validated only by being deduced as the necessary intellectual conditions of experience in general (B167).[17]

This transcendental approach underlies Kant's conception of pure logic qua doctrine, in which all formal rules of thinking are to be derived completely a priori (§2.3). With such a derivation now connected to the *questio juris* about logical rules and set against the backdrop of the Locke–Leibniz controversy, we can further clarify the philosophical motivation behind Kant's insistence that logic qua

doctrine precede the normative function of its rules and that the doctrinal logic be pure and 'artificial'.

In a way, Locke's challenge has put immense pressure on a defender of the normative status of purported formal–logical rules to prove that those rules are indeed so entitled. By Kant's assessment, Locke's argument has also suggested that, in searching for the needed justification, we must begin with an analysis of human understanding. In this regard, 'Locke's book *de intellectu humano* is the ground of all true *logica*'—for logic has 'no other grounds or sources than the nature of human understanding' (V-Lo/Blomberg, 24: 25, 37). Nonetheless, Kant would add, if the question is whether formal–logical rules can serve as *strictly universal* norms, we must start with an analysis of human understanding *in abstracto*. Observations of how people commonly go about making inferences are irrelevant here, for no amount of experience can settle the question of strict universality.[18] Kant sides with Leibniz on this point. Unlike Leibniz, though, Kant invokes no metaphysical proposition about our divinely endowed subjective constitution to establish the necessity of formal–logical rules. To address the *questio juris* about those rules, it is beside the point to say that we follow them all along— though unknowingly in most cases—thanks to the native makeup of our mind. Rather, the rules must be established as the formal conditions of the possibility of thinking in a *logica artificialis*, without any regard to the natural constitution of our mind.

In sum, by stressing the pure and artificial nature of logic qua doctrine and by showing that this logic alone can ground the use of formal–logical rules as universal norms for the assessment of all thoughts, Kant has in effect put forward a unique philosophical view regarding logical norms. The *sollen* claim is the courier of this view. Hence, far from being an unreconstructed remnant of Kant's intellectual heritage, it is a deliberate move in his attempt to locate the source of the authority of formal–logical rules as strictly universal evaluative norms.

3. From Applied Logic to the Imperative of Judgment

3.1. Preliminaries

I mentioned in §1 that topics of applied logic take up the better part of Kant's logic lectures. We can gather the chief reason for this arrangement from Kant's announcement of the program for his lectures during the winter semester 1765–66 ('Announcement'). There he presents logic as a 'critique and canon' of the understanding. Recognizing that the common understanding borders on 'crude concepts and ignorance' in one direction and 'science and learning' in the other, he distinguishes two kinds of logic. The first provides the 'quarantine' that one must undergo to 'migrate from the land of prejudice and error, and enter the realm of a more enlightened reason and the sciences'. Through the second kind of logic or 'the critique and canon of *real learning*', one can then become reflectively acquainted with the rules governing all forms of sciences in which the

understanding is used. Having explained this distinction, Kant decides to lecture on the first kind of logic and to base the lectures on G. F. Meier's *Auszug aus der Vernunftlehre* for its attention to the cultivation of common understanding as well as that of learned reason (NEV, 2: 310–11).

These remarks are key to understanding the subsequent developments of Kant's theory of logic in his lectures, notes, and other published writings. In the context of this paper, it is worth noting that Meier's work on logic provided the bridge between Locke's and Kant's theories of logic, by incorporating all sorts of epistemic issues discussed in Locke's *Essay* into logic, alongside typical topics of formal logic.[19] Following Meier, Kant would distinguish 'a *logica* of the common understanding and of healthy reason and a *logica* of learnedness' (V-Lo/Blomberg, 24: 17–18), which roughly correspond to the two kinds of logic described in the 'Announcement'. The first would become 'applied logic', described once as 'merely a cathartic of the common understanding'. The second logic would bifurcate into 'organon[s] of this or that science' (special logics) and the 'canon of the understanding in general' (pure logic) (A52–53/B76–78). Although pure logic has a more important role to play than applied logic does in the *Critique*, the latter is front and center in Kant's logic lectures—understandably so, given his recognition of the distance between how people commonly use their intellectual faculties and how they should use them.

Against this background, let us consider the following passages:

> It would be just as necessary to write an experimental logic as physics, in which one should investigate how man can err through prejudices, and overhastiness, and in other ways too, so that rules can be prescribed for him as to how he ought to guard against that.

> One should make observations, furthermore, as to how we can judge most correctly, and also prescribe [*vorschreiben*] rules on this in logic.

> We have to look at the nature of the human understanding, so that one can set up rules appropriate to it.

> It would be foolish to set up logic for rational beings in general, or even for angels, and to think, in doing so, that it could be useful to us too. It would be just as if I were to give to a cripple, who has to walk with crutches, rules and precepts for how he should walk and run like someone healthy. (V-Lo/Blomberg, 24: 28)

In these passages, Kant's primary concern is not to articulate logical rules that can be used as evaluative norms in the sense described in §2, which were applied to *thoughts*. Rather, he is referring to rules by which an *agent* ought to regulate her judging activities. (We shall see that, when Kant talks about how we can 'judge

most correctly' in this context, he means a different notion of judgment than the one operative in pure logic.)

These rules, furthermore, must be prescribed to thinkers like us—not as pure rational beings, but as beings who can err due to prejudice, haste, etc. Accordingly, an account of such rules must be informed by studies of the nature of human understanding both *in abstracto*, to clarify what it is capable of by itself, and *in concreto*, to reveal the general circumstances of its possible misuse. These studies correspond to pure and applied logics. If these logics are theoretical in nature, they are nevertheless 'practical *in potentia*' in that they imply rules for how we should regulate our epistemic activities (V-Lo/Wiener, 24: 901). In §§3.2–3.3, I draw out some of these practical implications based on Kant's account of error. By the end of §3.3, the reader will have got a basic sense of how Kant's logic—broadly construed to include both pure and applied logics—may provide imperatival norms.

3.2. How We Err

Kant defines error as the holding-to-be-true of falsehood. What is false is a thought or cognition. What is erroneous can only be an act of judging or holding something to be true.[20] While false cognition is 'not a great reproach if the opportunity to know certain things has been lacking' (V-Lo/Wiener, 24: 817), for errors 'we are ourselves always culpable, in that we are not cautious enough in venturing a judgement, for which we do not have enough cognition' (V-Lo/Wiener, 24: 832; V-Blomberg, 24: 101; Log, 9: 53). Avoiding error is within our power. An account of error must then indicate what precepts are to be set down for that purpose.

Kant's account begins with the premise that the understanding by itself can never err or deviate from its own laws.[21]

> It is hard to comprehend how a power can deviate from its own laws, since it acts only according to certain laws. If these laws are essential, then the power cannot deviate from them[;] if, then, among the formal laws of the understanding that logic expounds an essential one is possible, then the understanding cannot deviate from it. E.g., a heavy body cannot cease falling. (V-Lo/Wiener, 24: 824; V-Lo/Blomberg, 24: 102)

Now the act of judging that can indeed deviate from the laws of understanding is essentially an act of holding something to be *true*. When one judges erroneously, it is not because one seeks falsehood but because what one perceives as true turns out to be a mere illusion of truth. A being would never err, then, for whom there could be no discrepancy between her perception of truth and what is true. Therefore, error would be impossible for a purely intellectual being, much as the morally evil would be impossible for a holy being.

If the morally evil is to be possible for a being who essentially wills the good, there must be a foreign power involved which can somehow interfere with her will and distract it from its proper destination.[22] The same, *mutatis mutandis*, applies in the case of error.

> Deviation from the rules of the pure will constitutes the morally evil, and this arises only when and because other effects of other powers mingle with the otherwise pure laws of the will, E.g. The inclinations and affects. Just in this way, when foreign powers mingle with the correct laws of the understanding, a mixed effect arises, and error arises from the conflict of [this with] our judgements based on the laws of the understanding and of reason. (V-Lo/Blomberg, 24: 102)

Kant identifies the foreign powers interacting with the understanding as those of sensibility. Error is possible for us only as beings with both sensibility and the understanding:

> error is effected only through the unnoticed influence of sensibility on understanding, through which it happens that the subjective grounds of the judgement join with the objective ones, and make the latter deviate from their destination [*Bestimmung*], just as a moved body would of itself always stay in a straight line in the same direction, but starts off on a curved line if at the same time another force influences it in another direction. (A294/B350-51)[23]

Kant ascribes the subjective grounds of judging to sensibility and the objective ones to the understanding. The latter are grounds 'for why something is really true or false', whereas the former consist in 'certain circumstances, by means of which one is in a position to make a supposition about the truth or the falsehood in a thing' (V-Lo/Blomberg, 24: 88). When we err in judging, it is because 'we take merely *subjective* grounds to be *objective*, and consequently confuse *the mere illusion of truth with truth itself*' (Log, 9: 54; V-Lo/Wiener, 24: 863–65).

Prejudice is a chief subjective source of error (Log, 9: 76). One kind of prejudice is servile prejudice, a propensity to agree with others in view of their prestige, age, etc. (V-Lo/Wiener, 24: 869–70). Under its influence, one may hold certain propositions to be true simply because they are maintained by great philosophers: 'The prejudices of well-known merits give strong presumption that everything that is said, e.g., by Wolff, Leibniz, etc., will be meritorious' (V-Lo/Wiener, 24: 864). In this way, prejudices can dispose us 'to love something and to be taken with it' and thereby incline us to judge on the wrong grounds (V-Lo/Blomberg, 24: 162).

Some erroneous judgments consist in deviation from logical rules in particular. One kind of logical error involves fallacious syllogistic inferences. A syllogistic inference is formally true or false, i.e. valid or invalid (§2.2). The fallacious nature of an inference can be 'hidden' from untrained eyes, though, and gives rise to a 'logical illusion': 'I can imitate form without having internal correctness of the propositions, and thus logical form itself gives an illusion of truth, of which sophists often make use' (V-Lo/Wiener, 24: 832; A296/B353). Take for example an inference where the middle term has different meanings. It is an inference that is 'wrong as to form, although it has for itself the illusion of a correct inference' (Log, 9: 134). One may be misled by its illusory appearance of validity, however, and rush to judge it valid—and thereby commit a logical error. One may do so

under the influence of servile prejudice, whereby one is inclined to hold as true whatever reasoning put forward by an interlocutor who seems sophisticated.

3.3. *Rules for Preventing Error*

In §2, we saw that pure logic by itself implies no more than evaluative norms of thoughts. Now that we have taken applied logic into account, which explains how human beings can deviate from the laws of thought while judging, we can see whether Kant's logic broadly construed—with pure and applied logics as complementary parts—also provides imperatives for our epistemic conduct.

Kant has a good reason to be interested in this question. When he first sketched the plan for his logic lectures in the 'Announcement', he had undertaken a self-described Rousseauian turn toward 'honor[ing] human beings' and pinning the true 'value' of an inquiry on its contribution to humanity (Bem, 20: 44). He would later reiterate this conviction in terms of the Baconian call for laying 'the foundation of human utility and empowerment', which 'claims nothing infinite, and nothing beyond what is mortal, for in truth it prescribes only the end of infinite errors' (Bii). In that connection, it is only natural for Kant to say:

> [logic] improves the understanding and reason … just as he who under-stands a language according to its rules cannot err as easily as he who has learned it only *ex usu.* … he who has in view the rules by which he ought to form his understanding, and who applies them properly, also does not fall into error as easily as he who knows nothing of these rules. (V-Lo/Blomberg, 24: 39)

If pure logic is essentially a theory of the formal rules of thinking, it has also provided a tool of empowerment by precisely articulating those rules.[24] We can better guard ourselves against error—to which we are prone, as applied logic has shown—if we consciously apply those rules while forming our thoughts. The benefit of this use of logical rules is most salient when we construct logical inferences, especially when they are complex. Only by forming an inference in accordance with a clear representation of the relevant rules can we be *certain* of its validity.

If a theoretical logic is thus practical *in potentia* (§3.1), its practical implications may in turn differentiate it from a competing alternative and make it more or less preferable than the latter. This point captures the ultimate reason of Kant's dissent from the traditional syllogistic. We have seen him arguing that, contrary to the traditional view, only the first figure is fundamental when it comes to the issue of validity (§2.2). Now there is also a visible practical dimension to his contention that the traditional syllogistic is needlessly subtle: it obscures rather than clarifies, and therefore counters the true *end* of logic.

> Suppose that one wished to bring about the following situation. A number of inferences and the main judgments, all intermingled together, are to be entangled with each other in such a fashion that, some being explicitly

stated and others suppressed, a great deal of skill will be required to determine whether or not they conform to the laws of inference. If this were one's objective, one might invent … new and puzzling inferences capable of causing headaches enough. The purpose [*Zweck*] of logic, however, is not to confuse but to clarify, not to obscure but clearly to reveal. … If [modes of inference] do not satisfy these conditions they are not to be granted the freedom of appearing in a logical discourse as the formulae [*Formeln*] which represent the syllogism in clearest form. (DfS, 2: 56)

Kant does not deny that one can construct valid inferences in all four figures. He grants that the traditional syllogistic may 'enabl[e] one to carry off the victory over a careless opponent in a learned dispute', but mocks such disputes as mere 'academic athleticism'. While stressing that pure logic only investigates the learned understanding (to ensure its purity as a strict science), Kant also seems to think that a *better* pure logic—assuming there can be competing versions—must exhibit greater simplicity in its presentation of the rules of thinking, suitable for guiding the common understanding. For the 'distinctive purpose' of logic is precisely to 'reduc[e] everything to the simplest mode of cognition'. Otherwise, the more special rules a logic includes, the more it burdens our mind. A maximally efficient use of our limited intellectual power requires simplest possible 'formulae' from pure logic (DfS, 2: 55–57).

Setting aside specific pure–logical rules, we can extract the following precept from Kant's account of error: for any thought that can be true or false, do not hold it as true unless you are certain about its truth. This is the categorical imperative for how we should judge or hold something as true. Call it 'the Imperative of Judgment'. For reasons explained in §2.3, this imperative is intended for rational beings like us, who are not purely intellectual but have both sensibility and understanding. Standing under it is constitutive of our epistemic agency (just as standing under the moral law is constitutive of our moral agency), in virtue of which we are accountable for our acts of judging and, in particular, culpable for committing errors. (Standing under an imperative is not the same as following it in one's actions.) Take the case depicted in §3.2, where one is confronted with a fallacious inference that has the illusory appearance of validity. Strictly speaking, one should judge an inference valid—or, in Kant's terms, true *in forma*—only when one can prove it as such by pertinent inference rules. When one fails to do so but rushes to judge it valid under the influence, say, of servile prejudice, then one is blameworthy for acting in this way. In fact, even when an inference that one judges valid is in fact valid, one can still be criticized for having based her judgment on the wrong grounds. To that extent, the pith of the Imperative of Judgment is not simply to avoid error, but to exercise our epistemic *agency* properly.

In these terms we can make some sense of Hanna's claim, quoted in §1, that Kant's logic is 'categorically normative' in that it prescribes how we ought to think in every possible circumstance 'because this is required by the nature of rationality'. However, the relevant categorical imperative is not to be conflated, as Hanna seemed to do, with the command that 'humans *ought* to reason soundly or validly

(more generally, cogently)'. If we as human beings can commit logical errors in the way illustrated in §3.2, it is not as though we can choose not to reason validly. To the contrary, we as rational epistemic agents are essentially oriented toward truth (in Kant's broad sense of truth that includes validity), much as we as rational moral agents are essentially oriented toward the good. It is just that we may not know what specific logical rules determine correct reasoning in a particular case. This lack of knowledge alone does not make us err. We err when we rush to judgment despite being uncertain about, say, the cogency of a piece of reasoning. It is with respect to this kind of *judging* activity that we are properly subject to a command that is analogous to the moral law, namely, the Imperative of Judgment.

These remarks also help to clarify whether it makes sense to say that we stand in an imperatival relation with specific pure–logical rules. I suggested in §2.3 that an imperative might be formulated as 'You ought to think in accordance with R' for any pure–logical rule R. I made the suggestion mostly for the heuristic purpose of showing that imperatival norms are directed at agents. Now, given the Imperative of Judgment, it seems more appropriate to say that pure–logical rules are among the most basic things about which we must get clear so as to be less easily misled by, say, the illusory appearance of cogency in some inferences and therefore less susceptible to logical errors. To borrow the Baconian language that Kant used to connect theory and practice, a conscious and reflective grasp of those rules empowers us in fending off errors.

In the final analysis, then, the two kinds of logical norms explicated so far converge in a reflective exercise of our epistemic agency. The manner in which they come together mirrors the pedagogical order of two logics that Kant envisioned in the 'Announcement'. Briefly, we first recognize ourselves as beings who are prone to error but who can also avoid error—not by refraining from judging altogether, but by consciously regulating how we judge. Having understood the mechanism of error (through applied logic), we see the need to subject our judging activities to the Imperative of Judgment. This imperative gives us only a general guideline, without telling us what judgments to pass in particular circumstances. For the latter purpose, we need to improve our intellectual acumen. One step toward this improvement is to gain a clear representation of pure–logical rules, in reference to which we can evaluate the formal correctness of what is proposed for judgment. We become better judges only through such rule-governed reflective exercises of our capacity to judge.

4. Conclusion

I have discussed two senses in which Kant's logic may be considered normative. I have made special effort to clarify the following points, the failure to recognize which seems to explain much of the inadequacy of the current literature on the topic.

(1) There are two kinds of rules of thinking in Kant's pure logic, structural versus veridical rules. Distinguishing these rules is necessary for understanding the precise sense in which illogical thinking is conceptually possible or impossible.

(2) In Kant's view, formal–logical rules can serve as strictly universal norms for the formal assessment of our thoughts only insofar as they have been demonstrated in pure logic as what constitute the necessary conditions of thinking in general. The originality of this view shines forth when we connect it with the historical controversy over how to justify the alleged authority of formal–logical rules.

(3) Although in the *Critique* pure logic has a more central role to play than applied logic does, the latter dominates Kant's logic lectures. This arrangement is a deliberate choice on Kant's part, and reflects his Rousseauian–Baconian conviction about the final value of theoretical inquiries, logic being one of them. Only when we behold this perspective can we appreciate the extent of the normative implications of Kant's logic.

My purpose in clarifying these points is to clear out the conceptual space for further discussions. There are various related issues worth further exploration. I sample three of them.

First, as Longuenesse suggested (§1), there was a long philosophical tradition before Kant that treated logic as normative. It is far from clear, however, that the philosophers belonging to that tradition shared the same notion of logical normativity or agreed on what kind of norms could come from logic. The distinction I have drawn between two kinds of norms implied by Kant's logic can serve as the basic conceptual framework for an interested reader to sort out this tradition.

The second issue concerns the analogy between logic and morality. I have followed MacFarlane and Hanna to assume that logic can prescribe some kind of norm that is comparable to the Categorical Imperative. I have argued that the norm in question can only be the Imperative of Judgment or something like it, my chief reason being that an imperatival norm could be properly issued only to agents. Kant himself no doubt sees some analogy between logic and morality (A54–55/B79). The question is how far this analogy can go. For instance, if according to Kant the moral law is self-legislated on the part of reason, can we say the same about the Imperative of Judgment? This question matters to the bindingness of the imperative.

The final issue is connected with the second one. It involves freedom. A key assumption in Tolley's objection to the standard normative interpretation is that calling a law normative presupposes that an agent can freely choose to act contrary to it.[25] The Imperative of Judgment seems to satisfy this presupposition: when one judges out of prejudices, hastiness, etc., and thereby commits an error, one seems to be doing so freely—hence culpable for the error. It is moot, however, whether Kant's notion of free agency extends to non-moral spheres. Even if some kind of freedom must be granted to an epistemic agent in order that she can be held accountable for her judgments, it is debatable how robust a sense of freedom it must be.[26]

Notes on Kant's Works

References to Kant's *Critique of Pure Reason* take the typical A/B form. References to his other works are to the volume and pagination of *Kant's Gesammelte Schriften* (AA), vols. 1–29 (Berlin: de Gruyter, 1902-) and *Logik Vorlesung: Unveröffentlichte Nachschriften* ('LV') (edited by Tillman Pinder, Hamburg: Felix Meiner, 1998). For translations, I use *The Cambridge Edition of the Works of Immanuel Kant* whenever available, with occasional modifications involving key terms. Other translations are my own. I use standard abbreviations of Kant's works in German (http://www.kant-gesellschaft.de/en/ks/e_HinweiseAutorenSiglen_neu.pdf). Here are additional abbreviations:

Bem *Bemerkungen zu den Beobachtungen über das Gefühl des Schönen und Erhabenen* (AA 20)

V-Lo/Hechsel *Logik Hechsel* (LV 2)

V-Lo/Warschauer *Warschauer Logik* (LV 2)

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ENDNOTES

[1]   This paper was inspired by discussions in the graduate seminar that I taught at Georgetown University in fall 2012. I thank the students in that seminar for their thoughtful contributions and especially Ben Kegley for raising and pressing some concerns about logical normativity that I address here. The paper has gone through multiple versions. In the process, I have benefited greatly from discussions with these colleagues: Tom Beauchamp, Bill Blattner, Quentin Fisher, Tim Jankowiak, Ted Kinnaman, John Malcolm, G. J. Mattey, Laura Papish, Terry Pinkard, Oliver Thorndike, and Joseph Trullinger. Any infelicities that may remain are purely my own.

[2]   For example, Log, 9: 14; Refl 1579, 16: 20–21; V-Lo/Pölitz, 24: 502; V-Lo/Dohna, 24: 694.

[3]   This distinction between different kinds of logical norms is inspired by Steinberger 2015.

[4]   See Lu-Adler 2015.

[5]   Tolley characterizes 'the standard normative interpretation'—including the ones by MacFarlane, Hanna, and Longuenesse—as the view that Kant 'takes the logical laws to be *imperatives* for thinking' (Tolley 2006: 372). When I refer to the standard normative interpretation, I mean whatever normative reading proposed in the works of MacFarlane etc., without tying it to Tolley's characterization.

[6]   V-Lo/Philippi, 24: 341; V-Lo/Dohna, 24: 764. In this regard pure logic is like grammar, which 'contains nothing more than the mere form of language in general, without words, which belong to the matter of language' (Log, 9: 12–13; V-Lo/Wiener, 24: 790–91).

[7]   To continue with the analogy of grammar, only an arrangement of words that accords with appropriate composition rules can yield a genuine sentence. Likewise, only

when a multitude of representations are combined according to the relevant structural rules can a thought arise from the combination.

[8] V-Lo/Wiener, 24: 904; V-Lo/Pölitz, 24: 565; V-Lo/Busolt, 24: 653; V-Lo/Hechsel, LV 2: 389; Log, 9: 4.

[9] Log, 9: 101; V-Lo/Pölitz, 24: 577; V-Lo/Wiener, 24: 928; V-Lo/Hechsel, LV 2: 422; V-Lo/Warschauer, LV 2: 623.

[10] A151/B190–91; V-Met-L$_2$/Pölitz, 28: 544; V-Met/Mron, 29: 789. 'Principle of contradiction' is Kant's chosen expression. Strictly speaking, a principle (*principium*) of truth is a *ground* for determining truth. See A151–52/B190–91; V-Lo/Wiener, 24: 823.

[11] See Capozzi and Roncaglia 2009.

[12] The fundamental problem, according to Tolley, is whether we can *freely* choose to think contrary to logical laws. Tolley reduces 'the freedom required for logical laws to be [imperatival] norms' to 'the freedom to think illogically'. If illogical thought is conceptually impossible, he asks rhetorically, 'what sense could it make to ascribe to Kant a view in which the understanding (or anything else) possesses [the requisite freedom] … if this would amount to the freedom to *do the impossible*?' (Tolley 2006: 383–84)

[13] See Refl 1579, 16: 18; V-Lo/Philippi, 24: 314; V-Lo/Dohna, 24: 696–98; V-Lo/Wiener, 24: 791, 798; Log, 9: 17, 93.

[14] Log, 9: 101; V-Lo/Pölitz, 24: 577; V-Lo/Wiener, 24: 928; A69/B94.

[15] V-Lo/Dohna, 24: 693; V-Lo/Wiener, 24: 790–92; Log, 9: 12–13; Refl 1603, 16: 33; Refl 1620, 16: 40; Refl 1628, 16: 44.

[16] Kant introduces the distinction in relation to categories. He remarks that the *questio facti* 'has been the business of … Locke and Leibniz', who have given it Aristotelian–empiricist and Platonic–innatist answers respectively (V-Met/Mron, 29: 764). See A84–85/B117.

[17] I explicate these points in Lu-Adler [forthcoming].

[18] Kant separates strict and comparative senses of universality, arguing that experience can establish only the latter. (B4)

[19] Pozzo 2005. I mention this fact partly to forestall the objection that the imperatival norm soon to be introduced is not logical but epistemic.

[20] V-Lo/Wiener, 24: 832; V-Lo/Blomberg, 24: 105; V-Lo/Dohna, 24: 720; Log, 9: 53.

[21] The understanding is here taken broadly as 'the faculty of cognition of rules (and thus cognition through concepts) in general', which includes three powers: reason, the understanding in the narrow sense (defined at A51–52/B75–76), and the power of judgment (Anth, 7: 196–97).

[22] A being who wills evil qua evil is diabolically evil, which is inapplicable to human beings (RGV, 6: 37). Similarly, human beings as rational agents cannot give assent to what they clearly perceive as false. Otherwise, they would be acting 'contrary to all reason' (V-Lo/Blomberg, 24: 105).

[23] See V-Lo/Wiener, 24: 824–25; V-Lo/Dohna, 24: 720; Refl 2142, 16: 250–51; Refl 2244, 16: 283–84.

[24] Kant attributes the capacity of thinking to the human understanding alone, which is a 'discursive' power of representation in terms of concepts. By contrast, the divine understanding is purely intuitive and so cannot be taken for a power to think (VT, 8: 400*n.*; V-Phil-Th/Pölitz, 28: 1053). In that connection, pure logic, as logic of thought, is meant only for the human understanding.

[25] See note 12.

[26] See Kohl 2015, which has articulated and addressed some of the core issues regarding whether we are free in the theoretical domain.

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