

## Points of view. Kant on perspectival knowledge

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### Abstract

The aim of this paper is to cast new light on an important and often overlooked notion of perspectival knowledge arising from Kant. In addition to a traditional notion of perspectival knowledge as “knowledge from a vantage point” (*perspectival knowledge<sub>1</sub>*), a second novel notion — “knowledge towards a vantage point” (*perspectival knowledge<sub>2</sub>*) — is here introduced. The origin and rationale of *perspectival knowledge<sub>2</sub>* are traced back to Kant’s so-called transcendental illusion (and some of its pre-Critical sources). The legacy of the Kantian notion of *perspectival knowledge<sub>2</sub>* for contemporary discussions on disagreement and the role of metaphysics in scientific knowledge is discussed.

### 1. Introduction. Two kinds of perspectival knowledge in Kant

There is a ubiquitous (and surprisingly elusive notion) in philosophy, whose history and epistemological implications Kant redefined: the notion of perspectival knowledge. Kant has often been read as the precursor of a view that has found fertile terrain among contemporary pragmatists and perspectivalists alike: i.e., the view that knowledge is never from a God’s eye view, but it is instead from a *human* vantage point.<sup>1</sup> Intuitive and appealing as it might be, perspectival knowledge has traditionally served as a foil to respond to a host of rival philosophical views, ranging from metaphysical realism to causal realism; from objectivist realism, to a more general Nagelian “view from nowhere”. But understanding what is really at stake in the notion of “knowledge from a *human* vantage point” remains surprisingly elusive. And Kant’s own view on perspectival knowledge proves a lot subtler than is often assumed. Understanding how Kant saw scientific knowledge as an example of perspectival knowledge is all the more important, given the far-reaching legacy of such notion in the history of philosophy (from metaphysics to epistemology and contemporary philosophy of science). This essay hopes to clarify Kant’s twofold view on perspectival knowledge. The surprising outcome of this re-appraisal is that Kant’s commitment to perspectival knowledge—if properly understood—does not pave the way

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<sup>1</sup> The Kantian origins of perspectival knowledge have been acknowledged by Putnam (1981, 1990); Price (2007); Giere (2006); and van Fraassen (2008), pp. 78-80.

to constructivist or relativist positions, notwithstanding widespread readings of Kant's perspectivalism along these lines.<sup>2</sup>

For Kant put forward two rather distinct notions of perspectival knowledge. The first, and by far better known and discussed, is "knowledge from a vantage point" (let us call it *perspectival knowledge*<sub>1</sub>). *Perspectival knowledge*<sub>1</sub> is knowledge afforded by our cognitive faculties; for Kant, these are the faculties of sensibility and of understanding, in the first instance. Kant's Copernican revolution in philosophy, and the central role assigned to synthetic a priori judgments has been the *locus classicus* for discussions of perspectival knowledge in the literature, with an emphasis on the active and constructive activity of the human mind in making phenomena 'objects of possible experience' for us. On this first notion, Kant's perspectival knowledge is understood as a reaction against what might be called absolute knowledge, or knowledge 'from nowhere' (to borrow the Nagelian expression): i.e. knowledge whose main task is to produce accurate or veridical representations of a ready-made world.<sup>3</sup> This was the kind of knowledge defended by Locke no less than Descartes, no matter how different their respective views were on how our minds deliver such accurate (and not deceitful) representations of a ready-made world. *Perspectival knowledge*<sub>1</sub> is Kant's considered response to this well-entrenched philosophical tradition that spanned across empiricism and rationalism.

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<sup>2</sup> For example, Boghossian (2006, p. 18) lists Kant alongside social constructivists although clearly contemporary social constructivists would emphasize the *contingency* of the socially constructed facts by contrast with Kant: "The ordinary notion of a constructed fact is perfectly compatible with the idea that a particular construction was forced, that we had no choice but to construct that fact. According to Kant, for example, the world we experience is constructed by our mind to obey certain fundamental laws, among them the laws of geometry and arithmetic. But Kant did not think we were free to do otherwise. On the contrary, he thought that any conscious mind was constrained to construct a world which obeys to those laws. The social construction theorist is not interested in such mandated constructions. He wants to emphasize the *contingency* of the facts we have constructed...". Along similar lines, Nelson Goodman in the Introduction to *Ways of Worldmaking* presents Kant as the forefather of the view he calls *radical relativism under rigorous restraints* (1973, p.x) "I think of this book as belonging to the mainstream of modern philosophy that began when Kant exchanged the structure of the world for the structure of the mind". Putnam (1981, p. 63): "On Kant's view, any judgment about internal or external objects (physical things or mental entities) says that the noumenal world as a whole is such that this is the description that a rational being (one with our rational nature) given the information available to a being with our sense organs (a being with our sensible nature) would construct... What then is true judgment? Kant does believe that we have *objective* knowledge... But what is truth if it is not correspondence to the way things are in themselves?... the only answer that one can extract from Kant's writing is this: a piece of knowledge (i.e. a 'true statement') is a statement that a rational being would accept on sufficient experience of the kind that is actually possible for beings with our nature to have". Rorty (1979/2009, pp. 147-8): "With Kant, the attempt to formulate a "theory of knowledge" advanced half the way towards a conception of knowledge as fundamentally "knowing that" rather than 'knowing of'... Unfortunately, however, Kant's way of performing the shift still remained within the Cartesian frame of reference; it was still phrased as an answer to the question of how we could get from inner space to outer space. His paradoxical answer was that outer space was constructed out of the *Vorstellungen* which inhabited inner space".

<sup>3</sup> See Putnam (1990), p. 18: "I shall try to connect the failure of the ideal of a God's-eye view with the central problems of Western philosophy from the time of Kant...Kant was deeply torn between the idea that all knowledge is partly our own construction and the idea that knowledge must yield what I have called a 'God's-Eye view.'".

The second, and surprisingly much less explored Kantian notion, is what I am going to call “knowledge towards a vantage point” (or *perspectival knowledge<sub>2</sub>*). For Kant *perspectival knowledge<sub>2</sub>* is distinctively delivered by the faculty of reason in its hypothetical use, as I argue in this paper. *Perspectival knowledge<sub>2</sub>* pertains to the regulative role of reason as much as *perspectival knowledge<sub>1</sub>* pertains to the constitutive role of the faculty of understanding. Kant discusses this second notion (i.e. *perspectival knowledge<sub>2</sub>*) most notably in the Appendix to the Transcendental Dialectic, where the metaphor of the *focus imaginarius* is introduced to convey the “indispensably necessary regulative use” of transcendental ideas of reason, namely their “directing the understanding to a certain goal respecting which the lines of direction of all its rules converge at one point” (A645/B673). *Perspectival knowledge<sub>2</sub>* reappears again in the Canon of Pure Reason (A820/B848) and might be regarded as continuing in the third Critique, where the regulative role gets re-assigned from the faculty of reason to the faculty of reflective judgment.<sup>4</sup>

Kant’s theory of knowledge has been understood primarily along the lines of *perspectival knowledge<sub>1</sub>*. For example, some scholars have interpreted Kant’s synthetic a priori knowledge as *perspectival knowledge<sub>1</sub>*, i.e. knowledge through “native spectacles through which we view the world”.<sup>5</sup> If scientific knowledge is first and foremost understood as *perspectival knowledge<sub>1</sub>* in constituting objects of experience that are the products of applying schematized categories to the spatio-temporal manifold of the faculty of sensibility, doubts arise about the ability of Kant to guarantee that different epistemic agents may come to know *the same* objects of experience. *Perspectival knowledge<sub>1</sub>* has —unsurprisingly maybe—invited questions about the ability of Kant’s theory of knowledge to escape what seems a tangible risk of ‘transcendental solipsism’.<sup>6</sup> Other interpreters of Kant, who have stressed the regulative role of the faculty of reason,<sup>7</sup> have often done so in contexts (such as Kant’s third Critique) that might seem distant from the kind of

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<sup>4</sup> For reasons of space, I cannot engage here in a textual discussion of the third Critique and I shall concentrate my attention to the relevant passages of the first Critique where *perspectival knowledge<sub>2</sub>* is introduced and justified.

<sup>5</sup> “It is knowledge...*pertaining to* these spectacles. It is knowledge pertaining to our own epistemic faculties...We cannot take the spectacles off” (Moore 1997/2006 p. 122). In Moore’s reading, since we cannot know things in themselves, this “entails the perspectivalness of all our representations, where ‘our representations’ are again taken to be those that make any real sense to us” (p. 123).

<sup>6</sup> See Adrien Moore (1997/2006) on this point: “Our representations are from the point of view of possible human experience. They involve concepts that concern the way things appear to beings with certain epistemic faculties, most obviously faculties that involve the imposition of a spatio-temporal structure on what is known. Representations of the same type could not be produced from other points of view (This means that the representations are not only perspectival, but radically perspectival). But the transcendent possibility of being occupying other points of view is not ruled out.” (p. 123) Moore concludes: “This illustrates...the idea that the unity of reality is determined by its being held together at the transcendental level. This holding together is part of the transcendent process whereby we contribute a conceptual structure to reality, allowing for things to be some way or other. It is something that we effect ourselves. Indeed it is something that each of us effects severally. For the unity in question, though shared, is essentially the unity of each individual consciousness. This explains why Kant sometimes toys with what might be called transcendental solipsism”. (p. 125).

<sup>7</sup> Ginsborg (2015), essays I and II; Zuckert (2007); Guyer (1997).

solipsistic concerns seemingly affecting *perspectival knowledge*<sub>1</sub> and as such without really discussing or offering intended solutions to these concerns on behalf of Kant.<sup>8</sup>

This essay puts forward a novel interpretive reading of Kant, whereby the universality and unanimity of scientific judgments (what Kant refers to as *der Grund der Einstimmung aller Urtheile* in A821/B849) is ultimately made possible by reason in its regulative role (*perspectival knowledge*<sub>2</sub>). I argue that key to *perspectival knowledge*<sub>2</sub> is the capacity of the faculty of reason to relate individual points of view (i.e. individual cognitions produced by the faculty of understanding and faculty of sensibility, as per *perspectival knowledge*<sub>1</sub>) to a *focus imaginarius*, which while illusory plays nonetheless what Kant describes as an “indispensably necessary” role. According to the interpretive strategy of this essay, ideas of reason—qua *foci imaginarii*—create a perspectival systematic space, so to speak, where it becomes possible for individual cognitions to achieve the universality and unanimity that they would otherwise lack, if they were just the products of *perspectival knowledge*<sub>1</sub>. If this interpretive strategy is correct, it becomes then clear why Kant takes reason, in its regulative role, to be “indispensably necessary” for a “coherent employment of the understanding” (A651-2/B679-80). I ultimately argue that Kant’s *perspectival knowledge*<sub>2</sub> required to be supplemented by *perspectival knowledge*<sub>2</sub>. Not only is *perspectival knowledge*<sub>2</sub> the best safeguard against the looming threat of transcendental solipsism latent in *perspectival knowledge*<sub>1</sub>. But it also underpins the internal coherence in Kant’s use of ideas of reason for both practical and theoretical philosophy.

But the main upshot of this novel interpretive reading is not just to draw attention to the existence of this important distinction between what I call *perspectival knowledge*<sub>1</sub> and *perspectival knowledge*<sub>2</sub> in Kant.<sup>9</sup> My two additional main goals are: (1) to elucidate what I take to be the origins of Kant’s seminal ideas on *perspectival knowledge*<sub>2</sub> from the pre-Critical writing *Dreams of a Spirit-Seer Elucidated by Dreams of Metaphysics* to the Appendix to the Transcendental Dialectic (Sections 2 and 3). And, (2) to bring Kant’s *perspectival knowledge*<sub>2</sub> to bear on contemporary discussions about disagreement in science. To this purpose in Section 4, I discuss how *perspectival knowledge*<sub>2</sub> may shed light on the role of metaphysics (in particular, the role of metaphysical ideas of natural kinds) for reaching universality and unanimity in scientific knowledge.

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<sup>8</sup> See, for example, Guyer (1987), (1990), (2000), (2003), who sees systematic unity as related to the nomological necessity of empirical laws, with a particular emphasis on Kant’s reassignment of systematicity to the faculty of reflective judgment in the third Critique. Guyer’s analysis is not motivated or intended as a response to the solipsistic concerns that e.g. Moore reads in Kant.

<sup>9</sup> I have discussed this distinction and in particular, the way in which my reading of *perspectival knowledge*<sub>2</sub> compares with influential readings (i.e. by Grier, Guyer, and Allison, primarily) of the role of reason in the first Critique in XXX [masked for review].

## 2. Ideas of reason as *foci imaginarii*

In the Appendix to the Transcendental Dialectic, Kant set out the goals and aims for the faculty of reason, and clarified the important distinction between reason and understanding. While the faculty of understanding offers concepts through which the spatio-temporal manifold of the faculty of sensibility is conceptualized into objects of experience, “reason on its side unites the manifold of concepts through ideas by positing a certain collective unity as the goal’s of the understanding actions” (A644/B672). Whereas the understanding does not consider the totality or unity of objects of experience, the specific role of reason—in its regulative use—is precisely to order the objects of experience according to the totality of their series. In this context, Kant introduces the famous metaphor of the *focus imaginarius*:

[transcendental ideas] have an excellent and indispensably necessary regulative use, namely that of directing the understanding to a certain goal respecting which the lines of direction of all its rules converge at one point, which, although it is only an idea (*focus imaginarius*) — i.e. a point from which the concepts of the understanding do not really proceed, since it lies entirely outside the bounds of possible experience—nonetheless still serves to obtain for these concepts the greatest unity alongside the greatest extension. Now of course, it is from this that there arises the deception, as if these lines of direction were shot out from an object lying outside the field of possible empirical cognition (just as objects are seen behind the surface of a mirror); yet this illusion (which can be prevented from deceiving) is nevertheless indispensably necessary if besides the objects before our eyes we want to see those that lie far in the background, i.e., when in our case, the understanding wants to go beyond every given experience (...) and hence wants to take the measure of its greatest possible and uttermost extension (A645/B673).

The faculty of reason in its regulative use is said to accomplish a vital task in Kant’s theory of knowledge. It provides systematic unity “in accordance with necessary laws” to what would otherwise only be a contingent aggregate of cognitions delivered by the faculty of understanding. As an example, Kant refers to the ideas of “**pure earth, pure water, pure air**” routinely employed in the chemistry of his own time to classify all materials and to explain their chemical effects along mechanical lines (A646/B674).<sup>10</sup> Reason, in its hypothetical use “is therefore directed at the systematic unity of the understanding’s cognitions, which is the **touchstone of truth** for its rules. Conversely, systematic unity (as mere idea) is only a **projected** unity, which

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<sup>10</sup> See Carrier (1990) and (2001) for a historical analysis.

one must regard not as given in itself, but only as a problem” (A647/B675). Kant makes the further point that systematic unity is not just a logical principle but a transcendental principle of reason, one under which all possible cognitions of the understanding (including empirical ones) stand under, and can be derived from.

What is to be said about the hypothetical use of reason? And how to interpret Kant’s remarks about the systematic unity afforded by transcendental ideas as an *indispensably necessary* illusion, i.e. as a *focus imaginarius*? The Appendix to the Transcendental Dialectic has rightly attracted a considerable volume of scholarly literature. Amidst pressing interpretive issues, there is one puzzling feature that still awaits to be fully understood, despite progress made possible by the valuable work of several commentators.<sup>11</sup> The puzzle concerns what Kant calls the “indispensably necessary illusion” produced by reason in its regulative use:<sup>12</sup>

- (i) *Illusory*: why are ideas of reason illusory (a *focus imaginarius*)?
- (ii) *Necessary*: why are ideas of reason necessary (despite being illusory)?
- (iii) *Indispensable*: why are ideas of reason not just necessary but ‘indispensably necessary’?

For Kant, an idea (or, equivalently, a “concept of reason”) is “a concept made up of notions, which goes beyond the possibility of experience” (B377), where “notions” (*notio*) are nothing but pure concepts that have their origins “solely in understanding”. Thus, contra Hume, Kant warns, it is “unbearable to hear a representation of the color red called an idea. It is not even to be called a notion (a concept of the understanding)” (B377).<sup>13</sup> Going back to our point (i) above, why are

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<sup>11</sup> Most notably, Grier (1997, 2001), Allison (1983/2004), pp. 426-7; and Rescher (2017). Zuckert (2017) takes the three official transcendental ideas (soul, world, God) as “placeholders” for the purpose of securing empirical knowledge: “Specifically, I shall suggest that the ideas function as ‘optimistic placeholders’: they function as encouragement to investigation, suggesting (if illusorily) that *there is* something “out there” to be found in on-going empirical investigation. Precisely because they are nearly empty, however, the ideas do not predetermine the results of that investigation; they are *mere* placeholders for empirical results of properly empirical investigation. Because they present objects that will never be known by empirical science, moreover, the ideas also mark the limits of empirical scientific investigation as such, indicating that it will never be fully adequate to the demands of reason. Thus, I shall suggest, the ideas serve as schemata for – aids for the application or (perhaps better) proper employment of – the regulative principles by (paradoxically) *preventing* their application directly to the empirically given.”

<sup>12</sup> I have analysed this puzzle and two interpretive variations on Kant’s transcendental illusion in XXX [masked for review].

<sup>13</sup> In this context Kant makes a distinction between **representation** in general (*representatio*) as a genus, whose species includes **perception** (or conscious representation), which when used to refer to a modification of the state of the subject is called **sensation**. **Cognitions** are defined as objective perceptions, and divide in **intuition** or **concepts**. **Concepts** in turn can be **empirical** or **pure**, and the latter are called **notions**. Hence, ideas of reason (or concepts of reasons) are said to be “made up of notions, which goes beyond the possibility of experience.” (A320/B377)

ideas of reason called ‘illusory’ in the Appendix? I suggest the following reading which I label as (*I-Rule*):

(*I-Rule*) Ideas of reason are ‘illusory’ because they are not borrowed from the senses and go well beyond the concepts of the understanding. Hence, they are illusory by falling outside the bounds of possible experience. They are not constitutive of the objects of possible experience. Instead, their function is to provide ‘rules’ for the correct use of the faculty of understanding. Ideas have an “excellent and indispensably necessary regulative use” in directing the understanding to a certain goal “respecting which the lines of direction of all its rules converge at one point” (A644/B672), a point which—while illusory (*focus imaginarius*) because the concepts of the understanding do not really proceed from it—the *focus imaginarius* “nonetheless still serves to obtain for these concepts the greatest unity alongside the greatest extension” (A644/B672).

Ideas of reason offer the understanding *rules* for seeking out systematic unity among its cognitions. They do so not by positing (or hypostasizing) fictitious objects as ideal grounds. Instead, ideas accomplish their indispensably necessary regulative function by laying down the *rules* that the understanding ought to follow.

Ideas act as rules to bestow systematic unity upon the understanding’s cognitions, so that we can encounter nature as an ordered system and not just a contingent aggregate of unrelated objects of experience. They fulfill this task by offering an imaginary standpoint (*focus imaginarius*), from which “the concepts of the understanding do not really proceed” but that “nonetheless still serves to obtain for these concepts the greatest unity alongside the greatest extension” (A644/B672). In other words, think of the *focus imaginarius* not so much as an indeterminate placeholder for some object. Think of it instead as an imaginary standpoint from which lines are shot out, like in perspectival drawing. These lines constrain and structure the abstract space of reason within which the understanding’s cognitions are ultimately located. To fully understand this point, and its implications for *perspectival knowledge*, it is worth taking a closer look at the origin of Kant’s metaphor of the *focus imaginarius* and its underlying rationale and inspiration.

### **3. Origins of the metaphor of the *focus imaginarius* in the pre-Critical period.**

There is only one other place in Kant’s corpus where the expression *focus imaginarius* features: *Dreams of a Spirit-Seer Elucidated by Dreams of Metaphysics*. Written anonymously in 1766, this text

engages with the unorthodox topic of popular reports concerning paranormal powers of Immanuel Swedenborg. In the Third Chapter, entitled Anti-Cabbala, Kant discusses the “*dreamers of reason* and the dreamers of sense. The latter ...have dealings with spirits” (2:342). Interestingly enough, the chapter opens up with a quote from Aristotle: “*When we are awake we share a common world, but when we dream each has a world of his own*” (2:342). The *dreamers of reason* are the metaphysicians Wolff and Crusius “*who build castles in the sky* in their various imaginary worlds, each happily inhabiting his own world to the exclusion of the others” (2:342). The main fault with these metaphysical system (the Wolffian’s *Order of Things*) is a kind of solipsism that Kant dangerously sees as wedded to metaphysical knowledge. Metaphysicians are dreamers of reason, not different from spirit-seers, because “they see something which no other normal person sees; they have their own community with beings that reveal themselves to no one else, no matter how good his senses might be” (2:342). Kant calls these metaphysical systems “apparitions”, “figments of the imagination”, “reveries” because they are types of images that “delude the senses by presenting themselves as genuine objects, hatched out by the dreamer himself” (2:343).

Solipsism borne out by metaphysical reveries is, in my view, a very important clue in understanding the metaphor of the *focus imaginarius* that Kant introduces a few paragraphs later. For Kant develops the analogy between the dreamers of reason and spirit-seers, who even when fully awake “refer certain objects to external positions among the other things which they really perceive around them. And the question here is simply how it happens that they transpose the illusion of their imagination and locate it outside themselves, and do so in relation to their body” (2:343–344). In other words, how is it possible for spirit-seers to transpose the imagined objects as existing externally in the world?

To answer this question, Kant introduces the metaphor of the *focus imaginarius* as a “*point of convergence* of the lines indicating the direction in which the sensation is transmitted when it makes an impression (*focus imaginarius*). It is in this way that the place of a visible object, even when it is seen with one eye only, is determined.” (2: 344). Commentators have typically pointed to Newton’s *Opticks* as the source for Kant’s metaphor.<sup>14</sup> But there is a more telling source behind Kant’s metaphor. In fact, while Kant does not mention Newton in the text, he does mention, on the other hand, Descartes, who in the *Treatise on Man* discusses “material ideas”, i.e. “movements in the nerve-tissue or nerve-spirit of the brain” that accompany the representation of the faculty of imagination (2: 345). The reference to Descartes is hardly surprising. After all, the *Treatise on Man*

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<sup>14</sup> Indeed, in Book I, Part I, of the *Opticks*, Newton discusses how “an object seen by reflection or refraction, appears in that place from whence the Rays after their last reflection or refraction diverge in falling on the spectator’s eye” (Axiom VIII). Newton *Opticks*, p. 18 reprinted from the fourth edition, London: G. Bell & Sons Ltd, 1931.



engages, among other things, precisely with the issue of wake and dreams.<sup>15</sup> In *Dreams*, Kant latches onto Descartes's discussion, and makes a distinction between the motion of nerves at work in the images of imagination and the motion of nerves at work in the sensation. In the latter case, Kant claims that "the *focus imaginarius*, at which the object is represented, is placed outside me, whereas, in the case of the images of imagination, ...the *focus imaginarius* is located within me. For this reason, I cannot, as long as I am awake, fail to distinguish my imaginings, as the figments of my own imagination, from the impression of the senses" (2: 345). The distinction proves important for Kant's later discussion of madness or derangement affecting spirit-seers, whereby the subject is deceived to transpose the images of her/his imagination as representing objects present to the outer sense.

But the metaphor of the *focus imaginarius* in this context accomplishes an even more important task. That of introducing what I called in the Introduction *perspectival knowledge*<sub>2</sub>. Our knowledge is always *perspectival*, because it is from a specific point of view (namely, the point of view of our own epistemic faculties and the knowledge claims they afford). Yet, for Kant, perspectival knowledge *ought* to be shared with our peers, it must be unanimous, otherwise it cannot be qualified as genuine knowledge, but only as "bogus knowledge" (2:349) or "opinion" (2: 351). Hence, something must be said about how our knowledge claims can be unanimous and universal (without the risk of solipsism that spirit-seers and metaphysicians alike run). To this end, Kant brings to the fore for the first time what I called the notion of *perspectival knowledge*<sub>2</sub>. In the fourth and final chapter of Part I of *Dreams*, Kant introduces the metaphor of the scales for judging the extent to which our understanding might be producing bogus knowledge:

Scales, intended by civil law to be a standard of measure in trade, may be shown to be inaccurate if the wares and the weights are made to change pans. The bias of the scales of understanding is revealed by exactly the same stratagem, and in philosophical judgments too, it would not be possible, unless one adopted this stratagem, to arrive at a unanimous result by comparing the different weighings....I formerly used to regard the human understanding in general merely from the point of view of my own understanding. *Now I put myself in the position of someone else's reason, which is independent of myself and external to me, and regard my judgments, along with their most secret causes, from the point of view of other people.* The comparison of the two observations yields, it is true, pronounced parallaxes, but it is also the only method of preventing optical deception, and the only means of placing the

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<sup>15</sup> Descartes *Treatise on Man*, in *The World and Other Writings*, ed. Gaukroger, p. 146.

concepts in the true positions, which they occupy relatively to the cognitive faculty of human nature. (2: 349, emphases added).

In this remarkable passage, Kant lays out the task ahead for *perspectival knowledge*<sub>2</sub>. Doxastic knowledge, and other kinds of bogus knowledge, typically fail to pass the test of the “scales of understanding”. Doxastic knowledge is not invariant under a change in what Kant calls the “scales of understanding”: i.e., it is not invariant if we switch from person *a*’s understanding to person *b*’s understanding, to person *c*’s understanding, and so forth. By contrast, genuine knowledge (for example, scientific knowledge) ought to be invariant under a change of “points of view”: my scientific judgments about *X* ought to be able to be other people’s judgment too. If my judgments do not remain invariant when I put myself in the position of someone’s else reason—“which is independent of myself and external to me”—my judgments cannot legitimately claim unanimity and universality. To clarify this important point: the fact that our knowledge is always *perspectival*<sub>1</sub>—namely, it is from the point of view of our own epistemic faculties, i.e. understanding and its categories, although obviously in this 1766 pre-Critical text Kant only speaks of “understanding”—does not per se generate solipsism. However, it does not preclude it either. For it is possible that each and every individual epistemic agent could separately employ the categories of the understanding so that each would have her/his own phenomenal world (all similar in some respects, because the working of the understanding are presumably the same; but solipsistic phenomenal worlds, nonetheless).

Thus, the ability to be invariant under the “scales of the understanding” anticipates a crucial aspect of Kant’s transcendental illusion in the Appendix and later development of *perspectival knowledge*<sub>2</sub> in the first Critique, in my view. It is not enough for an individual’s epistemic agent and her faculties to sanction her/his own judgments about *X* (be it Swdeborg’s spirits, or Wolff’s Order of Things). These judgments would not qualify as genuine knowledge that can legitimately attain unanimity and universality, until they get sanctioned by other epistemic agents, via the faculty of reason “which is independent of myself and external to me”.

Echoing Adrien Moore on Kant’s transcendental solipsism (see footnote 6), and zooming back into the Appendix and the Critical period, the lingering worry about *perspectival knowledge*<sub>1</sub> is the following. Although constitutive a priori principles of the understanding might well grant the apodeictic certainty of scientific judgments, the universality and unanimity of such judgments is not equally secured by constitutive a priori principles alone. The problem with *perspectival knowledge*<sub>1</sub>, as I see it, originates from the way Kant defines the truth of a judgment as “the agreement of a cognition with its object” (CPR B83). The object in question for Kant clearly is

not a noumenal object; for we do not have knowledge of noumenal objects. But it cannot be an object of experience either (or at least, this cannot be the complete and final Kantian story) since objects of experience are the outcome of applying constitutive a priori principles of the understanding to the spatio-temporal manifold of the faculty of sensibility (as per *perspectival knowledge*). And the risk arises that different epistemic agents might form judgements whose “agreement with the object” might ever so slightly diverge. In other words, there is a lingering worry that any synthetic a priori judgment obtained thus and so may only have a private validity, so to speak, without proving invariant under the scales of understanding (to echo the language of *Dreams*). Kant seems to be facing the following problem about *perspectival knowledge*:

1. Scientific judgments are synthetic a priori judgments obtained by applying a priori categories and principles of the understanding to the spatio-temporal manifold of the faculty of sensibility.
2. Scientific judgments are true as long as there is “the agreement of a cognition with its object” (B83).
3. But the object, through which the truth of a scientific judgment is proved and with which every scientific judgment of the same kind has to agree (for it to be true), is not and cannot be a noumenal object (whose knowledge is precluded to us).
4. Such an object is not and cannot be an object of experience either. For we cannot use our own schematized concepts of the understanding as the hallmark for assessing whether our scientific judgments are true or not.
5. Thus, our epistemic faculties of sensibility and understanding jointly cannot ratify the truth of the scientific judgments they afford (as per *perspectival knowledge*).
6. An object is required as a *common ground*, upon which the scientific judgments afforded by the epistemic faculties of different epistemic agents (as per *perspectival knowledge*) can all agree.
7. But, barred noumenal and phenomenal objects, what could act in such a role?
8. And if no object can be found for such a role, how to avert the lingering risk of solipsism in *perspectival knowledge*?

One is here vaguely reminded of Wittgenstein’s discussion about private language and the metaphor of the beetle in the box in *Philosophical Investigations*, where no one can ever look into anyone’s else box and nonetheless everyone says she *knows* what a beetle is only by looking at her own box. We cannot genuinely claim to know that *p* —Kant seems to be suggesting—just

in virtue of how we *individually* form scientific judgments by applying a priori categories and principles of the understanding to the spatio-temporal manifold. What is needed, instead, is a “touchstone of truth” for a correct empirical use of our faculty of understanding, Kant tells us in the Appendix.

Kant seems to be aware of this solipsistic risk, and he returns to it in the Canon of Pure Reason in the first Critique, where in the context of a broader discussion about knowledge and opinion, he draws a distinction between what he calls *persuasion* and *conviction*. Persuasion is when the act of judging “has its ground only in the particular constitution of the subject... Hence such a judgment also has only private validity, and this taking something to be true cannot be communicated” (CPR A 820/B 848). Conviction, on the other hand, is when the judgment “is valid for everyone merely as long as he has reason, then its ground is objectively sufficient” (CPR A 820/B 848). Unsurprisingly, here too Kant appeals to the faculty of reason to supplement the faculty of understanding and make possible for judgments to be proved true and communicable.<sup>16</sup> Indeed without reason and its ideas, i.e. without *perspectival knowledge*<sub>2</sub>, there cannot be any guarantee that my judging that things are a certain way matches with other epistemic agents’ judging that things are indeed that way (no matter how certain each individual judgment might be in terms of having its ground in the act of judging afforded by the faculties of sensibility and understanding of each epistemic agent, with their a priori intuitions and a priori categories).

If the analysis so far is correct, what is then really at stake in the metaphor of the *focus imaginarius* and the transcendental illusion are ideas as ‘rules’ (*I-Rule*) for guiding reason in its hypothetical use towards the systematic unity of the understanding’s cognitions. Systematic unity is only a projected unity, shot out of ideas like vanishing points in a perspectival drawing.

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<sup>16</sup> “Truth, however, rests upon agreement [*Übereinstimmung mit dem Objecte*] with the object, with regard to which, consequently, the judgments of every understanding must agree [*einmüßig sein müssen*] (*consentientia uni tertio, consentiunt inter se*). The touchstone of whether taking something to be true is conviction or mere persuasion is therefore, externally, the possibility of communicating it and finding it to be valid for the reason of every human being to take it to be true; for in that case there is at least a presumption that the ground of the agreement of all judgments [*der Grund der Einstimmung aller Urtheile*], regardless of the difference among the subjects, rest on the common ground, namely the object, with which they therefore all agree [*zusammenstimmen*] and through which the truth of the judgment is proved” (CPR A 821/B 849). See XXX, on which I draw here.

Nonetheless, it is an “indispensably necessary” unity required for epistemic agents like us to be able to know that their judgments are indeed true, that they do not have just a private validity, and that match with other epistemic agents’ judgments that things are indeed thus-and-so. How to translate Kant’s view of ideas as *foci imaginarii* for contemporary discussions about disagreement in science (and the possible role of metaphysics in it) is the topic of the next and final Section.

#### 4. *Perspectival knowledge*<sub>2</sub>, disagreement, and the role of metaphysics

Let us take stock on Kant’s transcendental illusion. In terms of the threefold puzzle presented in Section 2:

- (i) *Illusory*: why are ideas of reason illusory (a *focus imaginarius*)?
- (ii) *Necessary*: why are ideas of reason necessary (despite being illusory)?
- (iii) *Indispensable*: why are ideas of reason not just necessary but ‘indispensably necessary’?

Granted our earlier answer to (i) in terms of (*I-Rule*), it should now become clear why ideas qua ‘rules’ are “indispensably necessary”. If the interpretive line canvassed in Section 3 is on the right path, a tension arises between the *subjectivity* at stake in our act of judging that things are a certain way (from the point of view of our epistemic faculties as per *perspectival knowledge*<sub>1</sub>) and the need for *agreement* among individual judgments [*zusammenstimmen*, A821/B849] that different epistemic agents can make about things being thus-and-so. That Kant perceived such tension and felt the need to secure agreement among individual judgments is evident from the context in which the discussion of *focus imaginarius* first takes place. In *Dreams* Kant was concerned with the thorny topic of popular reports about Swedenborg’s paranormal powers, a topic on which, unsurprisingly, judgments wildly diverged and doxastic knowledge dominated.

It might then be argued that Kant felt the need to secure *conversational* agreement about wildly diverging reports about ghost-stories and Swedenborg’s powers. Such dangerously solipsistic scenarios ought to be banned, while also allowing, for example, the “fleeting illusion” of the immortality of the soul to play a role in the scale-pan of hope.<sup>17</sup> Kant’s strategy to this end is captured by the metaphor of the scales of understanding in *Dreams*. And, twenty years later, by the transcendental illusion in the Appendix, where Kant is no longer discussing doxastic

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<sup>17</sup> See Kant (1992), 2: 350.

knowledge but the very same synthetic a priori knowledge of scientific judgments that in different ways seems also vulnerable to a lingering risk of solipsism. The strategy takes the name of *perspectival knowledge<sub>2</sub>* and might be defined as follows:

PERSPECTIVAL KNOWLEDGE<sub>2</sub>: Knowledge *towards* a common, shared vantage point: i.e., the vantage point of *reason's ideas*. Reason offers ideas as imaginary standpoints (*foci imaginarij*), which act as a 'shared conversational scoreboard' with respect to which individual judgments can be assessed as true and gain their universality and unanimity.

Reason must lay down ideas as imaginary standpoints (qua 'rules' for a correct empirical use of the understanding, as Kant tells us) so as to overcome a lingering threat of solipsism affecting Kant's synthetic a priori knowledge qua *perspectival knowledge<sub>1</sub>*. Ideas of reason, (if understood as *I-Rule*) are necessary to confer unanimity and universality to individual judgments and to reach *conversational agreement*. But in what sense can metaphysical ideas (purely illusory ones) ever confer unanimity and universality to individual judgments? Granted that Kant's three official transcendental ideas (soul, world, God) are illusory yet *necessary* in providing an imaginary standpoint for *practical* interests (i.e. for reaching unanimity and universality when it comes to the pursuit of the highest moral end),<sup>18</sup> what about the other examples that Kant mentions in the Appendix, i.e. "pure earth, pure water, pure air"? Why are *these* ideas 'indispensably necessary'?

I suggest that their role is to offer *metaphysical ideas of natural kinds* (in particular, ideas of genera and species through which he articulates the regulative principle of systematicity—via homogeneity, specification, and continuity—in the Appendix). He took ideas of reason as supplementing the synthetic a priori knowledge afforded by sensibility and understanding (*perspectival knowledge<sub>1</sub>*) because *without such illusory yet indispensably necessary ideas*, no conversational agreement could ever be guaranteed. To unpack this important point, and to appreciate its far-reaching implications, let me briefly turn to some contemporary debates in the epistemology of disagreement.

John MacFarlane has recently drawn a distinction between *inter-conversational disagreement*, and *intra-conversational disagreement* in the context of a wider discussion about contextualism and relativism. *Intra-conversational disagreement* is disagreement among two or more interlocutors; whereas *inter-conversational disagreement* runs deeper among epistemic communities. According to MacFarlane, the contextualist typically constructs the intra-conversational disagreement (on matters of taste, for

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<sup>18</sup> I discuss the role of the three transcendental ideas for practical reason, and the underlying unity between the first and second part of the Appendix in XXX.

example) in terms of the subjective speaker's preferences (as when I say that "rhubarb crumble is delicious" and my friend Mary says "rhubarb crumble is not delicious"). The problem with the contextualist approach is that it does not seem to fully capture the disagreement. Interlocutors would seem to talk past each other, rather than genuinely disagreeing on a commonly *shared* subject matter. Hence, the contextualist has to introduce some remedy, namely what Keith DeRose, following David Lewis, calls "single scoreboard":

instead of taking partially subjective discourse to be (partly and covertly) about the speaker, we take it to be (partly and covertly) about some aspects of the shared conversational score. Thus, for example, the score might include a shared epistemic standard that changes as the conversation evolves, getting more stringent when the stakes are high and less stringent when they are low (MacFarlane 2007, p. 19).

MacFarlane however complains that the contextualist remedy "does not give us enough disagreement. It gives us disagreement only within the bounds of a single 'conversation'—something for which it makes sense to imagine a shared scoreboard. ....The problem with single scoreboard approach is that it explains only intra-conversational disagreement, leaving inter-conversational disagreement unaccounted for" (MacFarlane 2007, pp. 20-1). MacFarlane then argues that where the contextualists' shared scoreboard strategy fails, the relativist might succeed.<sup>19</sup>

In what follows, I give my Kantian twist to the contextualist scoreboard approach and show how it can successfully deliver on matters of (scientific) inter-conversational disagreement. Taking the cue from Kant, metaphysical ideas of natural kinds (to use a contemporary proxy for what Kant called "pure earth, pure water, pure air" or "fundamental power") play an "indispensably necessary"

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<sup>19</sup> MacFarlane (2007), pp. 26-27, develops the relativist idea of a genuine disagreement in perspectival terms (it must be stressed once again that his primary concern is with matters of taste – "funny", "delicious" – rather than with scientific disagreement). He articulates the relativist view that two parties disagree (as assessed from context C) if (ibid., p. 26):

"CAN'T BOTH BE ACCURATE (RELATIVE TO C). (a) there is a proposition that one party accepts and the other rejects, and (b) the acceptance and the rejection *cannot* both be accurate (as assessed from C)."

Perspectival accuracy is in turn defined as follows (ibid., p. 26):

"PERSPECTIVAL ACCURACY. An acceptance (rejection) of a proposition p at a context C<sub>U</sub> is accurate (as assessed from a context C<sub>A</sub>) iff p is true (false) at the circumstance <W<sub>CU</sub>, S<sub>CA</sub>>, where W<sub>CU</sub> = the world of C<sub>U</sub> and S<sub>CA</sub> = the standard of taste of the assessor at C<sub>A</sub>."

The net outcome of this relativist strategy is that two parties may genuinely disagree, because accepting proposition p in world of C<sub>U</sub> and rejecting proposition p in world of C<sub>U</sub> cannot both be accurate (as assessed from C<sub>A</sub> and from the standards of the assessor at C<sub>A</sub>). Thus, disagreement is regained by relativizing accuracy to the perspectival context of assessment.

role in solving inter-conversational disagreement precisely because they can be regarded as the shared conversational scoreboard. Let us see how by considering a modern example of inter-conversational disagreement. Imagine the following hypothetical scenario of two scientific communities disagreeing on whether deuterium oxide is or is not a kind of water, following Joseph LaPorte:<sup>20</sup>

- (A) “D<sub>2</sub>O is not a kind of water” (let us call it *dwater*, in the language of the Earthlings living in a hypothetical Twin Earth in 1905, where D<sub>2</sub>O fills oceans and lakes but is poisonous to all forms of life and can be used to make a powerful bomb)
- (B) “D<sub>2</sub>O is a kind of water” (let us call it ‘heavy water’ as an isotopic variety of water, as the Earth scientists called it in 1935 when deuterium was identified).

This hypothetical scenario is not far from reality. As a matter of history, when the American scientist Urey in 1931 discovered deuterium (preceded a year earlier by the discovery of two isotopes of oxygen, <sup>17</sup>O and <sup>18</sup>O) despite the announcement in the *Times* of 9 December 1933 about a ‘new kind of water’ a debate began at the Royal Society as to how to classify the new element. Soddy, the father of isotopy, refused to consider deuterium as an isotope because for him the term ‘isotope’ had to be reserved to chemically non-separable varieties of the same element. Lord Rutherford retorted that isotopes could be chemically separable elements and called the new substance ‘diplogen’, while Bohr called it ‘hydrogen’ since its atomic number was 1 and he regarded it not as a new element. It took over a year before the scientific community eventually came to agree on the name ‘deuterium’ originally chosen by Urey, and classified it as an isotopic variety of water.

Leaving historical details aside, and sticking to LaPorte’s imagined scenario, each community might be said to produce judgments that are effected by the community’s own epistemic resources (as per *perspectival knowledge*<sub>1</sub>). For example, each community might have different concepts for classifying the chemical reactions of the liquid at issue; or, different conceptual taxonomies for its microscopic unobservable structure (in terms of D<sub>2</sub>O or PQR). *Inter-conversational disagreement* of this nature opens the door to Kuhnian scenarios where different epistemic communities might be genuinely ‘living and working in different worlds’, and a

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<sup>20</sup> This example is taken from LaPorte (2004), pp. 104-107. I have dealt with this historical episode and its implications on LaPorte’s view in XXX [masked for review].



relativist might conclude that no fact of the matter could be invoked to decide what counts as a true (or false) judgment about  $D_2O$  being (or not being) a kind of water.<sup>21</sup>

Taking the cue from Kant, an answer can be given to this example of scientific inter-conversational disagreement. Namely, the disagreement can be understood and resolved by appealing to the metaphysical idea of “pure water” as an imaginary standpoint (*focus imaginarius*), which acts as a “shared conversational scoreboard”. No solipsism, and no relativism either arise—whereby the proposition *D<sub>2</sub>O is not a kind of water* while true for Earthlings, may be false for the Earth scientists—if metaphysical ideas of natural kinds provide a shared conversational scoreboard.

Recall the threat of transcendental solipsism that Moore regarded as lingering in *perspectival knowledge<sub>1</sub>*, as explained in an argument from premises 1.–6. to conclusions 7.–8. in Section 3. We concluded that an object is required as a common ground, upon which the scientific judgments afforded by the faculties of different epistemic agents (as per *perspectival knowledge<sub>1</sub>*) can all agree. But what could act in such a role? In my view, the answer lies precisely in the ideas of reason. For ideas of reason are neither noumenal objects nor objects of experience. They are imaginary focal points for “directing the understanding to a certain goal respecting which the lines of direction of all its rules converge at one point” (A645/B673). Ideas of reason deliver knowledge *towards* a common, shared vantage point—what I defined above as *perspectival knowledge<sub>2</sub>*—to supplement the *perspectival knowledge<sub>1</sub>* afforded by the faculties of sensibility and understanding of different individuals. Understood thus and so, the role of reason and its ideas would then be to secure the universality and unanimity of our knowledge.

This interpretive reading might explain notoriously thorny passages where Kant talks of the faculty of reason and its ideas as the “touchstone of truth” for the faculty of understanding: e.g. in the Appendix, where we are told that the faculty of reason in its hypothetical use as being directed “at the systematic unity of the understanding’s cognitions, which is the **touchstone of truth** for its rules” (CPR A 647/B 675). And again in the Canon in the first Critique where Kant says that “The touchstone of whether taking something to be true is conviction or mere persuasion is therefore, externally, the possibility of communicating it and finding it to be valid for the reason of every human being to take it to be true; for in that case there is at least a presumption that the ground of the agreement of all judgments, regardless of the difference

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<sup>21</sup> Although not a relativist himself, LaPorte draws a conventionalist conclusion out of this imagined scenario: “We cannot say that our space travellers were just flat wrong in concluding that  $D_2O$  is not what they had been calling ‘water’ and that we are just plain right in concluding that it is” (LaPorte 2004, p. 107).

among the subjects, rest on the common ground, namely the object, with which they therefore all agree and through which the truth of the judgment is proved” (CPR A 821/B 849).

Echoing MacFarlane (see footnote 19) with all the necessary caveats (since I am not endorsing his underlying defense of relativism), I suggest reading the indispensably necessary role of Kant’s (*I-Rule*) in settling inter-conversational disagreement as follows:

(*I-RULE*) INDISPENSABLE NECESSITY: A judgment is accepted (or rejected) as true (or false) by a community of epistemic agents  $EC_1$  iff the judgment is true (or false) at  $\langle W_{EC_1}, I-Rule_{CA} \rangle$ , where  $W_{EC_1}$  is the world of the epistemic community  $EC_1$  and  $I-Rule_{CA}$  is the idea acting as a ‘rule’ (i.e. as an imaginary standpoint playing the role of a “shared conversational scoreboard”) in an ideal context of assessment  $CA$ .

Going back to the example of deuterium oxide, the inter-conversational disagreement between the Earthlings and the Earth scientists as to whether  $D_2O$  is or is not a kind of water, depends very much both on facts about the worlds (Twin Earth and Earth, respectively) where these judgments are respectively made (e.g. Twin Earth is filled with deuterium oxide in a way that planet Earth is not); *and*, importantly for my story, also on the metaphysical ideas of natural kinds that each community endorses as a conversational scoreboard. It is ultimately the Earth scientists’ commitment to the idea of “pure water” (say, the metaphysical idea of water qua mostly protium oxide that might come in isotopic varieties) that underpins their acceptance of  $D_2O$  as a kind of water (‘heavy water’). But the Earthlings did not share with the Earth scientists a common idea of “pure water” (considering also the abundance of  $D_2O$  on the hypothetical Twin Earth). And it is the lack of a common metaphysical idea of “pure water”, shared with the Earth scientists, that explains why the Earthlings judge  $D_2O$  not as a kind of water, but as a completely different chemical substance (that they dubbed *dwater*). Cases of scientific inter-conversational disagreement can be explained and analysed in perspectival terms, if (following Kant) one takes ideas of reason (qua ideas of natural kinds) as the imaginary standpoints from which individual scientific judgments can be proved right or wrong, and their universal validity and unanimity secured.

Leaving aside hypothetical (and unrealistic) Twin Earth scenarios, it is the standpoint of our human reason—a standpoint we *all* equally share in the endeavor called ‘scientific knowledge’—that allows us to converge and reach universality and unanimity of judgments. Without “pure water”, my cognition of *this* sample of  $^1H_2^{16}O$  as water, and your cognition of *that* sample of  $^2H_2^{17}O$  as water, and Martha’s cognition of her sample of  $^3H_2^{18}O$  as water (and so on),

could not be unified into *shared* and *universally agreed upon* scientific knowledge about water and its isotopic varieties. Without “pure earth”, my cognition of *this* sample of lanthanides, and your cognition of *that sample of* scandium, and Martha’s cognition of her sample of yttrium, and so on, could not be unified into *shared* and *universally agreed upon* scientific knowledge about rare earths and their chemical properties.

The hypothetical use of reason and the systematic unity that (*I-Rules*) afford accomplish then a vital task for scientific knowledge: they make our scientific knowledge *collective*, the kind of knowledge we can all agree upon (by contrast with bogus knowledge or doxastic knowledge, where differences of opinions, disagreements, and conflicting reports dominate). The space of reason is not a space populated by real metaphysical objects or real natural kinds with Putnamian microstructural properties. Pure water, pure earth, pure air do not pick out, or stand for real metaphysical objects (forever precluded to our epistemic faculties). Instead, they provide the shared imaginary standpoints where possibly diverging judgments can be assessed, proved to be true or false, and accepted or rejected accordingly. That is why the transcendental illusion might be deceptive in letting us suspect that there might indeed be *objects*, when there is in fact none. There are no natural kinds “rare earths”, or “pure water”, or “fundamental power” carving nature at its joints. Instead, there is only a multifarious and complex variety of physical and chemical *phenomena*, which we nonetheless learn to recognize, classify, and *scientifically know* as “rare earths”, “pure water”, or “fundamental power”.

To conclude, our knowledge claims are never just effected by our own conceptual resources, at the cost of different epistemic agents (or communities) advancing contradictory and incompatible judgements about the same subject matter. Metaphysical ideas of natural kinds are “indispensably necessary” in providing the *shared* perspectival<sub>2</sub> standpoint, where individual scientific judgments can be evaluated, proved true, and either retained or withdrawn. Without these imaginary standpoints, there cannot be a correct empirical use of the understanding for Kant. Far from running into solipsism, *perspectival knowledge*<sub>2</sub> is Kant’s best safeguard against it, and against the dreams of the reasoners, spirit-seers, and metaphysicians alike, who either do not share a *focus imaginarius*; or, worse, fall prey of the deception of taking the illusion for reality.

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