

Reply to Edgar Valdez

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Edgar Valdez's thoughtful critique of my book centres on the main thesis of its initial chapter, *Conceptos e intuiciones*, namely, on the psychological independence between intuitions and concepts. This is, of course, a version of what has been known as the Heterogeneity Thesis. What I shall do here is, first, dwell and elaborate on what I take to be the most dramatic aspect of the psychological independence thesis that may be attributed to Kant, namely, its being metaphysical independence. I propose that Heterogeneity is best understood as metaphysical independence between concepts and intuitions. In the second part, I shall try and respond to the main worries expressed by Valdez on behalf of Kant and of some of his recent interpreters. That my reading of Heterogeneity seems too radical motivates the first two worries: on the one hand, a full commitment to independence might endanger the possibility of bridging the divide between concepts and intuitions; on the other, Valdez fears that genuine independence may be out of reach, given the intermingling of our representations. A third worry is that, although psychological independence stands opposed to a strict conceptualism about intuition, it does not provide an explanation for spatial or even geometrical unities.

I should say that I highly appreciate Valdez's remarks on my book, for they are central and consequential for my overall proposal concerning Kant's theoretical philosophy. I share Valdez's convictions regarding the centrality of mathematics for Kant's programme of a critique of theoretical reason; and I have learned a great deal from his insistence in bridging the gap between concepts and intuitions in the special realm of mathematical knowledge. The fact that I focus here on his main line of criticism should not understate our overall agreement, and what I think is our shared suspicion regarding conceptualist readings of Kant's *Elementarlehre*.

I

1. As a general point, one may say that, for any two existing items x and y , if x is what it is regardless of what happens with y , and y is what it is regardless of what happens with x , then x and y are metaphysically independent. Notice that, since

both x and y are independent from each other, in this schema metaphysical independence is bilateral, but nothing rules out unilateral independence. It is useful to see metaphysical independence as absence of relations between facts. Hence, if the fact that x obtains bears no significant relation to the fact that y obtains, and vice-versa, then x and y are metaphysically independent. What would count as a significant relation in this framework? Take the predicates 'having a liver' and 'having lungs'. As a matter of biological fact, that a certain animal has a liver is connected, in a rather complicated way, with the fact that it has lungs. And, although we could imagine contexts in which we could infer, inductively, that a given animal has lungs from the fact that it has a liver, there is no direct causal link between having a liver and having lungs. Does the fact that an organism has lungs explain the fact that it also has a liver? Does it have a liver because it has lungs, or vice-versa? Furthermore, does it have a liver by virtue of its having lungs, or vice-versa? By answering these questions negatively we get a sense of what I take to be metaphysical independence. For our purposes, it will be important that metaphysical independence excludes *grounding* relations. So if x and y are metaphysically independent from each other, x cannot ground y , and vice-versa.^[1]

That there is a difference in nature or structure, rather than one of degree, between intuitions and concepts is recognisably the trademark of Kant's programme of a critique of theoretical reason. With this idea, commonly called the Heterogeneity Thesis, he aimed to distance his proposal concerning the possibility of human cognition from the gradualist views of the main traditions of his time. Kant and his interpreters commonly express this difference in terms of the overarching metaphors of the *receptivity* of sensibility and the *spontaneity* of understanding. I take Kant's Heterogeneity Thesis to entail bilateral metaphysical independence between concepts and intuitions. Given what concepts are, namely, mediate and general representations ascribed only to the spontaneous capacity of the understanding, and given what intuitions are, i.e. immediate and singular representations ascribed only to the receptive capacity of sensibility, the fact that we humans possess and employ concepts is not grounded on the fact that we possess and deploy intuitions. Correspondingly, the fact that we have intuitions of objects is not grounded on the fact that we employ concepts. Hence, Heterogeneity entails metaphysical independence, at least in the sense that the relation between these capacities is not one of grounding. That is what was meant in the book by the idea that each of these cognitive capacities "can be exercised without the other", and by their being *psychologically* independent.

Why is the metaphysical independence between intuitions and concepts psychological? Intuitions and concepts are types of representational states of a human creature, and, as such, types of psychological items. Now I think that the

fact that they are psychological items—mental states of a human creature—adds nothing to the notion that they are metaphysically independent; it is only that they are metaphysically independent as the type of psychological items they are.

2. Valdez worries that “being able to be exercised without the other” might go too far as a description of the difference between receptivity and spontaneity, so as to entail a fatal disconnect. Let us consider this worry. If we bear in mind that both receptivity and spontaneity are capacities for cognising objects—in the sense of *erkennen*—we could then say that the fact that we humans are able to *sense* objects—to have intuitions of particulars in space and time—is independent of the fact that we are able to *think* those same objects—to judge that things are thus and so—and vice-versa. Sensing is not thinking, and thinking is not sensing; in order to sense something one doesn’t need to think anything, and in order to think something one doesn’t need to sense anything. Does this involve a fatal disconnect between both cognitive capacities, namely, one that would imply incompatibility? Heterogeneity as metaphysical independence (Heterogeneity_{MI}) would imply incompatibility if it were committed to the view that a representation is intuitive *only if* it does not depend on an act of spontaneity.^[2] Nothing, however, necessitates that commitment. Heterogeneity_{MI} says that human intuitions have their own (sensible) conditions, and it so happens that these do not include metaphysical dependence upon spontaneity; but that does not quite mean that, for humans, having intuitions is incompatible with using concepts. Put otherwise, that the conditions of intuition do not include anything conceptual results in intuition being metaphysically independent of spontaneity, but metaphysical independence is not among the conditions that a representation needs to meet in order to be an intuition. Fears of a disconnect in the guise of incompatibility can, therefore, be dispelled.

Furthermore, Valdez argues that, given the psychological intermingling of our representations, ‘genuine independence’ may be out of reach. He writes: “I can be intuitively receptive to redness without recourse to the concept of red but I am not in that moment conceptually inert.” Although intuition of a secondary quality is a complicated topic in itself, his point here seems to be that there are, or there may well be, parallel cognitive processes going on at once, and the fact that we sense an object does not exclude our thinking it in some way, or perhaps even thinking some other object while sensing; just as, presumably, our thinking an object in general does not exclude our being in some way intuitively receptive. Hence, being able to exercise one capacity without the other, the mark of independence, seems beyond our reach.

If genuine independence is understood as metaphysical independence, though, along the lines I have suggested here, this other worry may be also be dispelled. Heterogeneity_{MI} says that, for any of our two elementary cognitive capacities, the exercise of one does not require the exercise of the other; but, as we saw above, that does not mean that the exercise of one requires the *absence* of the other. In other words, Heterogeneity is compatible with coexistence. This latter point is decisive, for, in my proposal, Heterogeneity_{MI} makes psychological intermingling possible in the first place; representations mingle up, in other words, as the distinct kind of human, mental representations that they are. But if independence enables the intermingling of our representations, there does not seem to be a ground for worrying that intermingling might threaten independence.

3. Metaphysical independence offers a distinct view of how intuitions and concepts can *collaborate* in that special sort of cognition called experience of objects. In my book, intuitions and concepts are presented not only as psychologically independent but also as epistemically interdependent. I take Kant by his word when he says that both kinds of representation must *collaborate*—that they ought to work together in a certain way if they are to enable empirical cognition. So part of my claim is that they can work together only by being the distinct kind of representations that they are.

Notice that, although metaphysical independence is bilateral, its *epistemic* consequences are diverse for each capacity. For receptivity, the consequence of independence is that the mere ability to sense gives us only the spatiotemporal ordering of particulars, but it cannot tell us whether those particulars are substances, nor whether they are causally ordered, etc. It comes as no surprise, then, that intuitions can be blind, because, they *are* blind. For spontaneity, in turn, the consequence is that the mere ability to think, without the proper nexus of what is given in intuition, tends to yield empty thoughts. As is well known, for Kant, in traditional metaphysics there are plentiful examples of those. These consequences are *epistemic* because they expose the partialness of each element in terms of what they each can cognitively grasp from and of particulars: in intuition, humans are presented with particulars in space and time, and do not *thereby* think them as having certain properties; by means of concepts, humans think those particulars as having certain characteristic marks which they share or not with other particulars, but they do not *thereby* sense (have an intuition of) particulars. Thus, partialness derives from the distinctive nature of our cognitive representations, and evidently demands their collaboration as complementary elements of cognition.

Valdez complains that complementarity is not nearly enough. He says:

The uniqueness of Kant's epistemological contribution comes from affirming not just complementarity but a unity between heterogeneous faculties.

Valdez has in mind Kant's view of mathematical knowledge, about which I shall say something later. But this juncture allows us some room to reflect on the kinds of unities that may be at stake here. There is, on the one hand, a unity that could be called intrinsic, namely, the unity of singularity or oneness. In this sense, for instance, the different parts of a soccer field are united by virtue of their belonging to a single, encompassing field. (Types of representation are united by virtue of their belonging to, or being parts of, a single unified consciousness.) But there is also, on the other hand, a type of unity which could be called extrinsic, namely, the unity of connection. In this sense, two items are united if they are connected in the right way, just as two or more links make one chain if they are connected in a certain way. And there is also the unity of an amalgam, where each element contributes to the unity of the whole by changing some of its properties. Gin and martini bianco combine to make a cocktail, and they each sacrifice their original colour, taste and texture to produce a new thing with new properties, a dry martini.

Collaboration of concepts and intuitions, in my view, stands more comfortably with the unity of connection than with intrinsic unity or with the unity of an amalgam. In other words, and in response to this worry of Valdez's, the "unity of intuitive particulars and conceptual universals" is a unity of connection whose elements complement each other under certain conditions. Only if concepts and intuitions are connected in a certain way can they constitute cognition (pure or empirical). So the unity of representations that we call cognition of objects—expressable in judgements of the form x is F —is, from the point of view of the types of cognitive representations involved, a unity of connection. This clearly points to complementariness: the mere coexistence of the elements is not enough to get the appropriate unity. We need the elements, like the links of a chain, to be connected in the right sort of way.

Although it is unclear to me what sort of unity is present in Valdez's worry, it seems only fair to take his point that complementariness might not be sufficient for the right sort of unity as the warning that, granted Heterogeneity_{MI}, the mere co-presence of the elements does not constitute a unity of connection. His worry is, accordingly, well justified in these terms, and it highlights the need for the notion of *collaboration* to illuminate the proper sort of connection between the elements.

II

4. In order to convey how collaboration might work under the auspices of Heterogeneity_{MI}, let us consider a further reservation expressed by Valdez. It concerns spatial and geometrical unities, especially in view of a well-known passage in the second edition of the Deduction. In the three long sentences that make up the footnote, Kant appears to take back some of the main claims of the Aesthetics concerning the unity of space and time. He famously writes:

In the Aesthetic I ascribed this unity merely to sensibility, only in order to note that it precedes all concepts, though it surely presupposes a synthesis which does not belong to the senses but through which all concepts of space and time first become possible. (B160–1n.)

Kant refers here to the unity of spatial representation produced by the *formal intuition* of space, a unity which the mere form of intuition, he says, cannot provide. The passage raises, recognisably, two mutually related challenges. The first is to provide a coherent account of how a certain required spatial unity can be said at once to precede all concepts, to presuppose a synthesis, and to enable spatial concepts—both pure and empirical. The second is to find an explanation of the distinction between space as a form of intuition and space as a formal intuition, such that it makes sense of Kant’s purported change of mind in the second edition of the Deduction.

In the first sentence of the note Kant makes a fundamental contrast between spatial plurality, on the one hand, and the unity of spatial representation, on the other. Space as a form of intuition is a source of spatial multiplicity, but it cannot, in that same function, grasp together such a multiplicity. The unity at issue here is just such grasping together (*Zusammenfassung*) of a given spatial multiplicity. This is, indeed, a novelty in the context of Kant’s transcendental doctrine of the elements of empirical cognition.^[3] A novelty, however, is not equivalent to a change of mind.

One should not, at this juncture, lose sight of the fact that the note is inserted in the framework of the account of synthesis of apprehension as constituting perception in §26 of the Transcendental Deduction.^[4] There, the synthesis of apprehension is described as “the composition [*Zusammensetzung*] of the manifold in an empirical intuition, through which perception [*Wahrnehmung*] [...] becomes possible” (B160). Although the terminology is not the same, the first-edition version of the Deduction spells out the same insufficiency of the mere ordered presentation of a spatial multiplicity for the unity of spatial intuition. The manifold requires “the running-through and then the taking-together of the manifoldness” (*das Durchlaufen der Mannigfaltigkeit und dann die Zusammennehmung desselben*), an action called there “synthesis of

apprehension”. Space “provides a manifold but can never effect this [unity of intuition] as such, and indeed *as contained in one representation*, without the occurrence of such a synthesis” (A99).

This context recommends seeing the unity provided by the formal intuition of space as the unity of spatial representation in the perception of particulars. That would make sense of the idea that, as a form of external intuition, space works as one of the orders—a web of actual and possible spatial relations—in which particulars are presented; the other is, of course, time.^[5] Hence, space as a form of intuition gives order to the sensible manifold, but this order does not provide the type of determinate unity of representation required by perception in the empirical intuition of an outer object, say, a house. This is the function of the formal intuition of space.

Two points might begin to appear moderately clear. First, we find that the unity of space, taken as an intuition itself and not as a form of intuition, may be seen as the product of a combination which operates in the perception of external objects. Second, the unity of formal intuition does not refer to space as an original intuition, i.e. to what has been aptly called the *unicity* of original space (Onof & Schulting 2015:13ff.). This means that, although a novel piece of representation has appeared in the context of examining *combination* in perception—namely, formal intuition—no change of mind needs to be attributed to Kant, on the basis of the footnote, concerning the nature of space as “essentially single [*einig*]” (B39/A25). In what follows I shall expand on these two points, beginning with the former.

5. In what sense does the unity of formal intuition presuppose a synthesis? The spatial manifold needs to be unified in such a way as to make perception possible, and we know that the mere ordered manifold is insufficient for that unity. Now as a combinatory product, this unity may be considered extrinsic, namely, a unity of connection. In other words, spatial multiplicity becomes a unity of spatial intuition by virtue of the way in which this multiplicity is combined or connected in one single representation. That unity presupposes a synthesis is explained by the fact that the unity of the formal intuition of space is the product of a combination and, to that extent, of an act of synthesis. In brief, unity presupposes synthesis, just like a product presupposes its producer.

It would be tempting but—I believe—wrong to identify this act of synthesis with the synthesis of apprehension, and to conclude that the unity of formal intuition presupposes the apprehensive synthesis.^[6] In the main body of the text, directly after the note, Kant draws an inference from the fact that space and time are themselves intuitions—each of them containers of a manifold of spatial and

temporal relations—to the fact that the “unity of the synthesis of the manifold” is given a priori “along with (not in) [*mit (nicht in)*]” these intuitions, “as condition of all synthesis of apprehension” (B160).^[7] Assuming that the unity of the synthesis of the manifold referred to here is the unity of formal intuition, what Kant is saying is that all acts of synthesis of apprehension must count on such unity, together with space and time, as their condition. Hence, the unity of spatial representation presupposes a synthesis insofar as it is a product of a combination. But this same unity is part of the conditions that make the synthesis of apprehension possible at all.

Recall, at this point, that the combination at issue in formal intuition is not a composition (*Zusammensetzung*), but a grasping-together or a comprehension (*Zusammenfassung*). This is an expression of an important, and barely noticed, difference between two types of synthesis. While all synthesis is a combination of multifarious elements, the type of synthesis involved in the formal intuition of space results in a comprehensive, unified representation of the sensible manifold, not in a general representation subsuming different partial representations under a single one. Although a product of a synthetic activity, the unity of formal intuition is nonetheless the unity of an intuition, not of a concept. A formal intuition is thus not only a *hybrid* representation, having traits both from receptivity and from spontaneity. It is also a *hinge* representation, namely, one that performs two functions: the same unity of representation that presents particulars in certain spatial and temporal *relations*, restricts what is to count as determined in space and time to what can be *combined* in a certain way.

Now, according to Kant, the unity of formal intuition “precedes any concept”. I take this to mean that it precedes all spatial and temporal concepts involved in perception.^[8] Why, then, does the unity of formal intuition precede all spatial concepts? In my proposal, precedence does not refer to the possession, but to the employment of spatial concepts in the context of perception. Briefly, the idea would be that, in order to be able to use spatial concepts in perception—concepts such as ‘being to the left of *x*’, ‘being under/ above *x*’, and so forth—humans need to possess a unified spatial representation of what they perceive. Notice that, accordingly, Kant is not exactly claiming that the unity of formal intuition is a necessary condition for the possession of spatial concepts. He is, rather, pointing to a (transcendental-)logical precedence: the successful employment of spatial empirical concepts in the actual perception of objects requires a unified spatial frame within which it makes sense to locate particulars in determinate relations, e.g. to see that the book is to the left of the lamp, and the lamp on top of the desk.^[9]

6. Is the placement of the notion of formal intuition within the project of a transcendental deduction of the categories, a change of mind, a rectification, from Kant's claims in the Aesthetic concerning the unity of space and time? I believe it is not. The notion is explained rather as a theoretical device to emphasise the partialness of sensibility, and the need for collaboration between the elements of cognition. This really comes as no surprise. In the framework of the Transcendental Aesthetic, as the a priori science of sensibility, there is no need to account for the workings of perception. Viewed from the Aesthetic, perception is conditioned by the unity of original space and time, but, there, the question of giving an account of perception beyond its involving empirical intuitions simply does not arise. Given Kant's decision that perception must be treated in the context of a type of synthesis—that of apprehension—and as conditioned, additionally, by a unity of combination, it is hardly surprising that he would say in the note that in the Aesthetic he ascribed such unity *only* to sensibility.

Now, it is evidently crucial that the combination involved in producing the unity of formal intuition is a rule-governed endeavour, so that not just any casual, arbitrary connection among spatial parts counts as a unity of spatial representation in perception. This is why the synthesis of apprehension has a highly relevant role in the task of showing the objective validity of the group of basic concepts, or categories, which govern our ordinary empirical concepts and, ultimately, experience itself. According to §26, which, globally, may be taken as a conclusion of the whole Transcendental Deduction,

all synthesis, through which **even** perception itself becomes possible, stands under the categories. (B161, boldface added)

The emphasis is of the utmost importance. When experience is characterised as “cognition through connected perceptions”, it is incumbent on the transcendental deduction to show that the categories determine the way spatial multiplicity is combined, *even* in the unity of representation that conditions the synthesis of apprehension. In brief, if even in the synthesis that makes perception possible the spatial multiplicity is combined according to the categories—or the meta-rules of the understanding—then it is safe to conclude that “the categories are conditions of the possibility of experience, and thus also valid a priori of all objects of experience” (B161).^[10]

Thus, viewed from the Transcendental Deduction, the unity of formal intuition is a vital piece of the argument for the objective validity of the categories. This piece, as we saw, answers the need for collaboration out of partialness. None other is the point of the parenthetical remark in the main text, already quoted, to the

effect that the combination of the unity of formal intuition is given a priori *along with* the intuitions of space and time, not *in* them. Sensibility, by itself, only gets us as far as presenting the spatial and temporal relations of particulars. The understanding, in turn, cannot generate cognition of objects by itself, as is evident in the case of perception. The notion of formal intuition allows every element to do its proper job. One may say that this is where the project of “making intuitions understandable” and “making concepts sensible”—a project Kant famously formulates in the introduction to the *Transcendental Logic* (B75/A52)—crystallises. Before concluding this section, let us try and illustrate this situation of collaboration with Kant’s example of the perception of a house at B162.

In the perception of a house, the conscious representation of an object by a human subject takes place as a result of the combination, in one consciousness, of the spatial manifold given in intuition. The manifold here is the diversity of intuitions of the parts of the house, all of which are orderly presented in space, so that in the formal intuition such a manifold is combined to produce the unity of spatial representation of the house. Now in the absence of a pure concept there is nothing that warrants the combination of the different parts of the house in a single conscious act, and no warrant that the way the diversity is combined in that case constitutes the representation of an object. In this case, in the perception of a stationary object such as a house, Kant explains that the operating category is that of quantity; it controls the synthesis of the homogenous in intuition (the parts of the house), and with this category the synthesis of apprehension must be entirely calibrated. One and the same unity of representation of the manifold of the formal intuition of the house is governed *both* by the unity of original space—which provides ordered spatial and temporal relations—*and* by the unity of original synthetic unity of apperception—which gives the basic rules of combination expressed by the categories.^[11] This unity of the spatial representation of the house makes it possible for the subject to employ spatial concepts in judgements such as ‘A big window is to the left of the entrance door’, and to incorporate that information into a unified web of other judgements and beliefs.

7. Let us, finally, give a sketch of how collaboration between intuitions and concepts works in the context of geometrical knowledge. It comes as no surprise that the collaboration of intuitions and concepts in geometry revolves around the notion of the construction of objects in space. Kant considers geometry as a pure rational cognition that proceeds through the construction of the concepts it uses to determine its objects—a line, a circle, a triangle. In the *Methodenlehre* of the

First *Critique*, Kant states that “to construct a concept means to exhibit *a priori* its corresponding intuition” (A713/B741). He adds that, in contrast with philosophy, mathematics

cannot do anything with the mere concepts but hurries immediately to intuition, in which it considers the concept in concreto, although not empirically, but rather solely as one which it has exhibited *a priori*, i.e., constructed, and in which that which follows from the general conditions of the construction must also hold generally of the object of the constructed concept. (A715/B744)

The question is how it is possible that *that*—a singular object presented in non-empirical intuition—can be universally valid. In a previous passage Kant indicates that non-empirical intuition has two faces: on the one hand, as an intuition it represents a singular object; on the other hand, however, “as the construction of a concept (of a general representation), [it must] express in the representation universal validity for all possible intuitions that belong under the same concept” (A713/B741). In other words, the construction of the concept produces a singular object whose properties are universally valid.

In §17 of the *Critique*, Kant writes:

Thus the mere form of outer sensible intuition, space, is not yet cognition at all; it only gives the manifold of intuition *a priori* for a possible cognition. But in order to cognize something in space, e.g., a line, I must *draw* it, and thus synthetically bring about a determinate combination of the given manifold, so that the unity of this action is at the same time the unity of consciousness (in the concept of a line), and thereby is an object (a determinate space) first cognized. (B 137–8)

We are already acquainted with the topic of the partialness and insufficiency of the form of intuition when it comes to cognising objects in perception. It is an insufficiency stemming from partialness, but the part fulfilled by pure sensibility is important enough. In this passage, the drawing of the line corresponds to its geometrical construction in original space. Now original space has certain topological properties (at least continuity and homogeneity), and the metaphysical property of antiatomism. The latter property has been largely overlooked in most of the recent literature. Recall what a proper part is: if x is part of y , but y is not part of x , then x is a proper part of y . Thus, according to the anti-atomism of original space—whose metaphysical concept is expounded in crucial passages such as B37–41—any spatial part has proper parts which, in

turn, have proper parts, and so on indefinitely. In this context, the anti-atomism of original space entails that spatial multiplicity can only be understood as a multiplicity of proper parts. Since it allows indefinite reductions and expansions—for any part can always be disaggregated into other spatial parts, and, being itself a proper part, it always admits of aggregations—anti-atomism leads also to infinity as a property of original space. And it also leads to what I would like to call the anti-atomic argument for the unicity of original space: since spatial multiplicity is always properly partial, if there were two distinct spaces, one of them would necessarily be a proper part of the other; but this only means that they would both constitute a single, unique space.^[12] This is the space *on* which the object is constructed, the surface, so to speak, on which the line is drawn; it is evidently a crucial element of the cognition of an object in space. Indeed, geometry is—in the view I am suggesting—a rational cognition through construction of objects in this original space, so the position of this elementary part of the a priori conditions for geometry as a science is well secured.

Now recall the first line of the note at B160, with the parenthetical remark, where Kant says that geometry requires space to be represented as an object. The way geometry represents objects is by constructing them in original space. Original space offers its topological and metaphysical properties, but this is as far as its collaboration goes, for it cannot by itself construct an object. The burden of the task of construction is, accordingly, on the side of spontaneity—in its guise as productive imagination responsible for the pure schemata, including geometrical schemata.^[13] What is crucial in this picture is that objectuality in geometry is achieved by limiting original space in a certain way, and thereby by producing spatial multiplicity. To represent space as an object is to synthetically take up a spatial multiplicity as one spatial part distinguished from another spatial part. Hence, to consider space as an object is to represent space as many. And to construct a singular object in space whose properties are universally valid is to use the properties of original space, together, of course, with the appropriate iterations, substitutions, and inferences, to produce a determinate combination of a pure spatial multiplicity. The result, as in the successful proof of a theorem, is the presentation of a singular object whose properties hold independently of any specific metric, and for all possible intuitions of it.

Final considerations

8. Let me end by presenting what I believe are the main overall convergences between Valdez's views and my own on the topic of the independence and collaboration between concepts and intuitions. It is clear that we both believe in the importance of Heterogeneity for Kant's project. I hope my proposal is now, if not more convincing, at least clearer than it was in the book, so as to explain why Heterogeneity—understood as metaphysical bilateral

independence—not only makes sense as a philosophical position in itself, but as an interpretation of Kant’s more salient passages in the *Critique* for the issues raised.^[14] Valdez’s considerations concerning the importance of unity and integration between the two faculties, on the other hand, are echoed in my insistence on epistemic collaboration as the complement of metaphysical independence. Where he speaks of unity and integration, between them, however, I speak of collaboration. Although this point may turn out to be minor, it might give some fuel to keep the conversation going. The reason why the latter is preferable, I believe, concerns the models of unity sketched in Section 3 above. There I suggested that collaboration of concepts and intuitions fits the unity of connection better than intrinsic unity and the unity of an amalgam. Like the links in a chain, the two kinds of element must fit together in the appropriate way in order to constitute objective cognition. Things get, however, more complex because—to continue with the image—normally the links of a chain are relatively homogeneous—in shape and other properties, so that, e.g. force can be equally distributed along the links. Not so with objective cognition, precisely because its elements are heterogeneous—they are, so to speak, differently shaped and made of different stuff, but they must still fit together in a certain way. We might say that one of the central pieces in such balancing is the obscure notion of formal intuition. So if we must explain Heterogeneity in terms of the highly complex articulation, which is not a fusion, between two different types of unities, it is better to talk about collaboration rather than about unity *simpliciter*.



Note:

[1] I do not want to say that metaphysical independence is defined as absence of grounding relations, because I do not want to prejudge whether all metaphysical dependence involves a grounding relation. See Rosen (2010). ↩

[2] See Land (2015:26). ↩

[3] According to Torreti (1974), however, the notion was implicitly present in Kant’s account of space and time. ↩

[4] As is well-known, Kant nowhere provides a unified and systematic theory of sense perception. From the *Elementarlehre* of the first *Critique*, however, one ought to be clear about the systematic distinctions between sensation, intuition, and perception. The location of perception in the so-called ‘second step’ of the Deduction, in the synthesis of apprehension, reveals that it is crucial for perception, and not for intuition, to be integrated into the original-synthetic unity of apperception. ↩

[5] I take the idea that space is an order of presentation from Falkenstein (1995). See also the book under review here, pp. 61ff. ↩

[6] See Onof & Schulting (2015:46). ↩

[7] It is perhaps advisable to have the whole passage in mind: “Also ist selbst schon Einheit der Synthesis des Mannigfaltigen außer oder in uns, mithin auch eine Verbindung, der Alles, was im Raume oder Zeit bestimmt vorgestellt werden soll, gemäß sein muß, a priori als Bedingung der Synthesis aller Apprehension schon mit (nicht in) diesen Anschauungen zugleich gegeben.” ↩

[8] Not of all concepts whatsoever. See Zöllner (1987:153). ↩

[9] Note, additionally, that the reason why the unity of formal intuition is said to precede all spatial empirical concepts may well be the same reason why this unity is an enabler of these same concepts: it makes their successful employment of these concepts in perception possible at all. ↩

[10] Here I side with the tradition, going back at least to Henrich (1969), according to which there are two steps in one single proof in the Transcendental Deduction of the Categories. ↩

[11] In order to ascribe to a human subject the perception of a house as a house, we would of course need to ascribe to it the possession of the concept ‘house’, which would presumably also require the implementation of the category of substance. ↩

[12] For a development of this idea, see Lazos (2018:52ff.). ↩

[13] Unfortunately, I cannot go into the topic of the schematism in mathematical cognition here. It is evidently important, as Valdez points out, that schemata in general are hybrid creatures of the hybrid power of imagination. See Caimi (2008) and (2017). ↩

[14] I attempt the former in Lazos (forthcoming). ↩

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