It is not enough to say, Jennifer Mensch argues, that, in addition to his more familiar interest in reconciling Newtonian physics and Leibnizian metaphysics, Kant nurtured an abiding awareness of the life sciences of his day. These were not inert, isolated interests, but productively interrelated moments of a broader view. Indeed, the connection between Kant’s understanding of the nature of cognition and the nature of organic generation is so thoroughgoing, Mensch claims in the final chapter of the book, that getting to the bottom of the central sections of the *Critique of Pure Reason* demands reflection on the significance of Kant’s pervasive employment of organicist language.¹

Mensch’s claim is not primarily literary, though *Kant’s Organicism* does evince a remarkable sensitivity to the philosophical water carried by rhetorical and linguistic choices. It’s not simply that Kant wraps his understanding of reason, cognition, and the mind in organic metaphors. Rather, Kant’s regular participation in debates central to the incipient life sciences provided the intellectual parameters within which he first formulated his now-famous questions regarding the possibility of pure cognition and then develops powerful conceptual resources to respond to those questions. As Mensch writes, Kant “was prepared to borrow freely from the models and vocabulary of the embryological debates then underway. Indeed . . . it was these models that would eventually help Kant discover the origin of knowledge itself.”²

A central moment in Mensch’s reconstruction illustrates this point nicely. In his 1770 Dissertation, Kant distinguishes between sensible and intellectual concepts. Sensible concepts are abstracted from sense experience. Intellectual concepts, Kant argued in 1770, cannot be innate, but neither can they be gleaned from sense experience. They are instead the product of an *original acquisition*. 
Just what this original acquisition amounts to, though, remains unclear in the Dissertation. No matter, for Mensch points us to a series of notes written between 1769 and 1776, showing that Kant had come in the first half of the 1770s to see that his understanding of the original acquisition of intellectual concepts—what would become the pure concepts of the understanding in the Critique—was intimately connected to his reflections on epigenesis. “Crusius explains the real principle of reason on the basis of [preformationism],” Kant writes, “Locke on the basis of [physical influx] like [Aristotle]; Plato and Malebranche, from [intellectual intuition]; we, on the basis of epigenesis from the use of the natural laws of reason.”

The connections Kant established between his work on the origin of concepts and the biological theories of generation effectively resolved the earlier problem and ushered in the even more vexing problem of the connection between representations of different origins. This new problem, the problem of the deductions, would in time, Mensch argues, also find its answer in Kant’s organic model of the mind.

Mensch’s book has convinced me that the development of Kant’s thinking about the nature and limits of cognition in the 1760s and 1770s was deeply informed by his understanding of debates in the life sciences during that period. What I would like to explore is the question of just how deeply into the critical philosophy Kant’s organicism penetrates. To what degree can the intellectual context in which Kant came to articulate his critical philosophy be separated from the critical philosophy itself? How tightly bound to the details of eighteenth-century conceptions of organic unity and development are the core concepts of Kantian transcendental philosophy? And what does Mensch’s excavation of the context of discovery of transcendental philosophy imply for current efforts to marry Kantian insights to contemporary interests and commitments? To my mind, all of this turns on how we are to understand the character of the contribution Kant’s thinking about the life sciences makes to the more familiar doctrines and strategies of transcendental idealism.

I have already indicated that Mensch rejects the possibility that Kant found in the life sciences a convenient set of metaphors that allowed him to express himself more clearly and to communicate more effectively than might otherwise have been possible. When we read that “epigenesis offered a theory of generation that Kant found compelling as a model for interpreting reason, for approaching reason as an agent that was both cause and effect of itself,” we should not be mislead into thinking that Kant’s epigenetic language can finally be separated like a husk from the core philosophical ideas it articulates.

The connection between epistemology and the life sciences in Kant’s thinking, Mensch argues, is not merely analogical. She makes this abundantly clear when she writes, “This was not merely a metaphorical appeal, since Kant’s use of the organic model had a deep methodological impact when it came to the critical
system.” Or again, now by way of contrast with other interpreters who each find parallel though separate developments in Kant’s understanding of reason and his understanding of the natural history of the human species, Mensch explains:

Since I take it that Kant’s use of organic models has a deep methodological impact on the critical system—the ‘epigenesis of reason’ does not only have a metaphorical value for Kant, in other words—I am willing to reach a stronger conclusion regarding the necessary intertwining of Kant’s critical and anthropological concerns regarding reason’s historical development.

Kant’s appeal to epigenesis in the analysis of reason is methodological, according to Mensch, rather than metaphorical.

We might understand the methodological significance Mensch finds in Kant’s understanding of epigenesis in a couple ways. First, we could think of the way or the means by which Kant came to develop his views. This captures her reconstruction of how Kant’s formulation of the problems surrounding the contribution of a priori concepts to empirical knowledge and his articulation of the transcendental unity of apperception as an integral part of the solution to those problems can be traced to specific moments when his work on the life sciences aligned fortuitously with his work on metaphysics and epistemology. The cross-fertilization of Kant’s reflections on these two questions made a demonstrable contribution to the most significant developments leading to the publication and revision of the first Critique. Without his abiding interest in natural history, we might conclude, Kant would not have developed transcendental idealism as we know it. In this way, we might conclude that the contribution of the life sciences is historically or biographically integral to the emergence of transcendental idealism.

The sense in which Mensch takes epigenesis to play a methodological part in the development of critical philosophy must be supplemented with another in order to encompass the full breadth of her interpretation. This second aspect of the methodological role of epigenesis bears on Kant’s view of the epistemological terrain his account of the origin of conceptual knowledge aimed to navigate. An excess of attention to the history of science and the resulting failure to integrate that field with bread and butter questions in the history of metaphysics and epistemology has led other historians to misconstrue the relation between Kant’s views on natural history and the mind. Previous interpreters have stumbled, Mensch argues, when it comes to Kant’s strict separation of the transcendental and empirical as well as when it comes to the epistemological significance of the ‘self-birth’ of reason. Summarizing the interpretation that allows her avoid these difficulties, she writes: “Ultimately Kant was a metaphysician with respect to reason, and because of this he was able to think about reason as something self-born even though he would have vigorously rejected the suggestion that he was thereby naturalizing reason.”
There is a lot here. First we need to grasp the epistemological problems to which Kant takes epigenesis to provide an integrated solution. Neither Lockean empiricism nor Leibnizian innatism offers satisfactory responses to Humean scepticism, since in each case the origins of the basic conceptual scaffolding of cognition remain contingent and so incapable of grounding necessity. If an epigenetic understanding of the mind is to avoid this limitation, epigenesis cannot be taken as an empirical theory of the structure and development of the mind. In order to avoid this, Mensch argues, Kant adopts a *metaphysical* account of the epigenesis of reason. That is, in response to the epistemological shortcomings of Lockean empiricism and Leibnizian innatism, Kant adopted a specific view of what the mind is precisely because the metaphysics of that view could license a response to the epistemological problems at hand.

This is the heart of the issue as far as I’m concerned. I have a good sense of what it means to think of epigenesis either as a metaphor for reason or as an empirical theory of the mind. What exactly a *metaphysical* epigenesis of the mind is, though, is less clear. We might take a hint from Mensch’s criticism of other interpreters who fail to maintain the strict separation between the empirical and the transcendental when evaluating the impact of Kant’s study of the life sciences. This would lead us to think a *metaphysical* theory of the epigenesis of reason is just a *non-empirical* theory. In support of this reading one could point to her claim that “Kant would take the epigenesis of reason to be real but only in a metaphysical sense, and this in the end was what finally distinguished him from Tetens.”

On the whole, however, Mensch does not embrace a merely negative conception of the metaphysical character of Kant’s view of the mind. She rejects Claude Piché’s claim that Kant’s providential conception of history provides the substantial metaphysical underpinning for the critical philosophy more generally. Though she disagrees with the details of Piché’s analysis, Mensch remarks, “Piché’s conclusion might well be correct in general regarding Kant’s reliance on metaphysical premises.” This line, which comes just as she presses the case that the epigenetic model of reason suffuses the *Critique of Pure Reason*, is misleadingly circumspect. If Kant’s conception of the epigenesis of reason is metaphysical rather than metaphorical or empirical, and if indeed Kant’s organicism forms the “actual ground of explanation in the transcendental deduction,” then certainly one of the most important conclusions of the book is that Kant’s analyses of the mind and of the nature and limits of cognition rely on metaphysical premises.

Two of the central claims of transcendental idealism—the objective validity of the categories and the possibility of noumenal freedom—depend, Mensch argues, on a positive conception of the metaphysics of reason. In the 1770s, recall, Kant struggled to find a way to avoid the pitfalls of empiricism and innatism, and epigenesis offered a solution. She writes:
By describing the unity of reason as a case of ‘self-determination’ Kant had finally located an epigenetic beginning, an origin that was neither supernatural nor empirical but spontaneous. And it was only in the vein of something that could be metaphysically conceived as self-born that the unity of apperception could be subsequently referred to as ‘pure spontaneity’ or as ‘transcendentally free.’

Thinking of reason epigenetically meets the epistemological challenge Kant has in mind, that is, insofar as it provides a model of how the categories are neither empirically nor divinely acquired but developed spontaneously in accordance with reason’s own internal regularities. That the mind is in some way organic, and so irreducible to mechanical explanation, is indispensable on this account to the success of both Kant’s broadest philosophical concerns.

It seems that Kant’s epigenetic model of the mind needs to be fairly thick if it is to carry the systematic weight assigned to it. Mensch’s reconstruction of Kant’s “metaphysical portrait of reason” thus entails some substantial commitments concerning what reason or the mind is, not in appearance but in itself. If indeed epigenesis is not only an elegant metaphor for communicating a complex view of the mind, and if it is also not merely an important historical and biographical ingredient in the context of discovery of transcendental idealism, but is a positive metaphysical tenet of the Kantian view of the unity, spontaneity, and freedom of reason, then the language of epigenesis and organic unity cannot be easily separated from the more metaphysically deflationary aspects of Kantian philosophy commonly embraced today. By attending to elements of Kant’s intellectual context that are typically overlooked as irrelevant today, this book raises a series of probing questions about the degree to which Kantian ideas, which for all their innovation remain products of the eighteenth century, are compatible with today’s philosophical and natural scientific commitments.

In any case, to argue that Kant’s critical philosophy is rooted in an epigenetic metaphysics of the mind stands in stark contrast with the general understanding of Kant’s withering criticism of rational psychology in the Paralogisms of Pure Reason. Now, it’s certainly not beyond the pale to argue that Kant has failed to excise every metaphysical commitment from his critical conception of the mind. Mensch suggests as much in the reference to Piché mentioned above. I do not think her point, however, is to call Kant to account for an unwarranted—if we’re feeling fiery, hypocritical—appeal to the true, inner nature of the mind or soul. I suspect she has something slightly different in mind.

In the closing pages of the final chapter, she summarizes her reading as follows:

[Epigenesis] allowed Kant to think of reason as a creature of its own making, as something self-born yet containing germs and predispositions for the possibility of its completion within an organic system that had been generated
by itself. Germs and predispositions were not physical things for Kant in this case, nor did they lie in reason in the manner of preformed ideas. They existed merely as potentialities, susceptibilities, a virtual set of possibilities that, given the right environment... could be realized. But until the moment of realization, a moment in no way predictable within the life of the individual, the model of epigenesis allowed the openness of reason's possibilities to be maintained.  

After noting that Kant's conception of the epigenesis of reason is not physical or natural, she sketches a positive description of a metaphysical view of epigenesis, which involves: “potentialities, susceptibilities, a virtual set of possibilities.” Kant's metaphysics of the mind isn't a substance metaphysics, but a metaphysics of virtual possibilities that realize themselves in a kind of “active generation, as opposed to the mere unfolding, of cognition and its objects alike.”

One might say that some central metaphysical concepts—causality and substantiality in particular—have a double life in transcendental idealism. On the one hand, causality and substantiality are categories whose objective validity is strictly limited to the realm of possible experience. On the other hand, however, the way in which we are affected by the thing in itself bears, as Jacobi already noticed, a strong resemblance to a causal connection. And things in themselves, in certain passages anyway, seem a lot like substances. Mensch's interpretation of the epigenesis of reason suggests, in this vein, a pre-categorial conception of the modal categories at work in the epigenetic potential of the spontaneous activity of reason. That is, the epigenetic metaphysics of reason that her interpretation brings out bears not on what kind of thing the mind is, but on how potentialities inherent in reason realize, express, and develop into actual representations in the face a diverse array of environmental conditions. The details of this metaphysical account of the mind, if fully worked out, would distinguish the epigenetic realization of mental potential from other, non-organic instances of potentiality. On this model, environmental conditions do not trigger the unfolding of the mind's internal potential, but occasion the mind's generation and the development of its potential in a way that is rooted in the already-established dispositions of the mind, without being prescribed or dictated by those dispositions. Spelling out the processes by which the mind's disposition to spontaneous synthesis develops into the full flower of the table of categories as an expression of the formal potential inherent in the mind seems a particularly important test case for this view. Presumably the details of this process would hew closely to the attractive, if fated, speculative natural history Mensch surveys and Kant ultimately rejects in the third *Critique* as a “daring adventure of reason.”

It is remarkable that a philosopher so opposed to “daring adventures” has been so popular for so long. This is due in no small measure to the care and energy of Kant's readers, as *Kant's Organicism* illustrates. Mensch's novel reading offers persuasive evidence of the centrality of Kant's engagement with the life...
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sciences for his articulation of both the central problems and ultimate solutions at the heart of transcendental idealism. What I find particularly engaging about this analysis, over and above my appreciation for her admirable execution of the stated aims of the book, is its suggestive reminder that questions about the implicit metaphysical underpinnings of Kant’s search for the grounds of metaphysics in general range far more broadly than the perennial topics of the thing in itself and the immateriality of the soul.

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Notes

2. Ibid., 53.
4. Although Mensch appeals to the return of epigenetic research in the contemporary life sciences, which suggests the possibility a convergence of Kant’s “epigenesis of reason” and current interests, I find the metaphysical baggage of Kant’s specific conception of organisms and epigenesis to be at least as likely to serve as a barrier to contemporary appeals to Kant’s conception of reason as it is to form a foothold for such appeals.
5. Mensch, Kant’s Organicism, 153.
6. Ibid., 144.
7. Ibid., 215n286.
8. Ibid., 159–60n13.
9. Ibid., 124 (emphasis added).
10. Ibid., 211n275.
11. Ibid., 125.
12. Ibid., 12.
13. Ibid., 144.
15. Ibid., 108.