

Research Article

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On the Understanding as the Faculty of Synthesis in Kant's Pre-Critical Thought

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Abstract: Kant's definition of the understanding as the spontaneity of cognition is a cornerstone of his transcendental philosophy. In the *Critique*, Kant presents the understanding as a discursive faculty that brings forth the synthesis of intuitions according to *a priori* rules; yet he does not make explicit why spontaneity and synthesis are identified within this characterization. To clarify this implicit connection, this article examines Kant's intellectual trajectory regarding the faculty of the understanding: from a faculty of distinct cognition to the spontaneous source of synthetic unity. Drawing on Kant's early theoretical writings and marginalia in Baumgarten's *Metaphysica*, this analysis traces three pivotal stages of Kant's pre-critical conception of the understanding: 1) the rejection of the law of identity as the universal formal ground of cognition in the 1760s because of its inadequacy to account for real grounding relations; 2) the consequent distinction between two irreducible forms of cognition, synthetic coordination versus analytic subordination, each governed by distinct formal principles; and 3) the account for *a priori* synthetic laws in terms of pure fundamental concepts, later the categories, which are grounded in the spontaneity of the understanding. Following these steps, in the mid-1770s Kant arrives at the novel conception of the understanding as the faculty determining the objective synthetic form of cognition, and of its spontaneity as the highest principle of the synthetic unity of experience.

Keywords: pre-critical philosophy; spontaneity; understanding-sensibility distinction; discursive cognition; empirical cognition; categories

1 Introduction

Among the most renowned passages of the *Critique of Pure Reason* is the opening of the Transcendental Logic, where Kant defines the understanding as “the faculty for bringing forth representations itself, or the spontaneity of cognition.”¹ Kant's account of the understanding as spontaneity is the outcome of a long and demanding investigation into the possibility of human cognition. Kant scholarship has extensively traced the genealogy of Kant's critical project to his pre-critical writings, especially regarding the Transcendental Deduction.² Although

1 KrV, A 51/B 75. References to the *Critique of Pure Reason* are from the original edition (A/B). References to Kant's works are given by volume and page number of the *Akademie* edition. For Kant's *Reflexionen*, I provide also the year according to dating system in the *Akademie* edition. Abbreviations of the titles of Kant's works follow their German original titles. English translations are from the volumes in the *Cambridge Edition of the Works of Immanuel Kant*.

2 For scholarship on the evolution of Kant's theoretical thought in the pre-critical period, foundational studies include Adickes, *Kant-Studien* and the first volume of de Vleeschauwer, *La Dédution Transcendantale dans L'Oeuvre de Kant*, which remain keystones for historical analyses of Kant's philosophy.

More recent works offer a more focused reconstruction of Kant's thought: Anderson, *The Poverty of Conceptual Truth*, traces the development of Kant's analytic/synthetic distinction; Laywine, *Kant's Early Metaphysics and the Origins of Critical Philosophy* reconciles Kant's early commitment to the problem of physical influx with his later distinction between sensibility and understanding, thereby interpreting the latter as the attempt to protect the realm of immaterial substances from being erroneously treated as objects of

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this tradition has made important contributions to Kantian research, it does not explicitly focus on how and why spontaneity becomes intrinsically linked to synthetic activity in the pre-critical thought. This article addresses this gap by reconstructing the trajectory of Kant's redefinition of the understanding, from the traditional conception as the faculty of distinct cognition to his novel account as the spontaneous source of the synthetic unity of experience.

The need for such a reconstructive analysis is itself suggested by the *Critique*, which offers several different definitions of the understanding. Shortly after presenting the understanding as the spontaneity of cognition in the *Critique*, Kant specifies this definition as negative. That the understanding is the spontaneity of cognition means solely that it is “a non-sensible faculty of cognition.”³ Alongside this negative definition, Kant introduces further designations, all of which point to its discursive nature.⁴ As is put in the A Deduction, the understanding can be explained in many ways:

through a spontaneity of cognition (in contrast to the receptivity of the sensibility), through a faculty for thinking, or a faculty of concepts, or also of judgments – which explanations, if one looks at them properly, come down to the same thing.⁵

The understanding is discursive as it cognizes objects mediately through universal representations like concepts and judgments. Further, the understanding is the faculty of rules, a designation which is even “more fruitful, and comes closer to its essence.”⁶ Finally, the understanding is characterized as the *a priori* ground of synthetic unity: “It is therefore a unity that subsists on its own, which is sufficient by itself, and which is not supplemented by any external additions.”⁷ Despite being a tangle of different descriptions, Kant's account in the *Critique* suggests that the negative definition of the understanding as spontaneity entails, positively, its law-giving capacity for synthetic cognition.

Drawing on Kant's early theoretical writings and his pre-critical marginalia to Baumgarten's *Metaphysica* – also called *Reflexionen* –, the present analysis aims to illustrate the key stages in the evolution of the characterization of the understanding in Kant's pre-critical thought; the focus of the investigation thus shifts from his early logic to the *Duisburg Nachlass*. More specifically, the article shows that 1) Kant first rejects the law of identity as the universal formal ground of cognition, as it fails to account for real grounding relations of things like causality; 2) consequently, he distinguishes between two forms of cognition, analytic and synthetic, that present different formal principles; 3) finally, he identifies *a priori* laws of synthetic cognition with pure fundamental

human sensibility; Schönfeld, *The Philosophy of the Young Kant*, demonstrates the unity of Kant's pre-critical project in reconciling Newtonian scientific models with metaphysical principles; and Schulthess, *Relation und Funktion* offers an historically contextualized analysis of the shift in metaphysics from a logic of substances to Kant's transcendental logic of relations and functions.

Pivotal reconstructions of Kant's argument for the Transcendental Deduction include Carl, *Der schweigende Kant*, which focuses on the so-called Silent Decade; and Allison, *Kant's Transcendental Deduction*, which comprehensively analyzes the thought of the transcendental deduction across Kant's entire philosophical development.

Given this article's focus, also Dyck's study, “Spontaneity *before* the Critical Turn” should be mentioned. Although this text addresses Kant's pre-critical conception of spontaneity in the pre-critical period, its analysis is confined to select pre-critical writings and thereby does not capture the full trajectory of the evolution of the understanding as a spontaneous faculty in Kant's pre-critical thought.

3 KrV (*Critique of Pure Reason*), A 68/B 92.

4 Log (*Logic*), 9: 91. See also KrV, A 230/B 283.

5 KrV, A 126. This passage recalls a similar one contained in the *Pölitiz Lectures on Metaphysics*, V-Met-L1/Pölitiz, 28: 240. In my view, Kant's notes on metaphysics offer a more reliable account of the evolution of Kant's thought than the *Pölitiz Lectures*, which present already, on the one hand, an account of the understanding as a spontaneous, law-giving faculty, and, on the other, an exposition of the faculties of the mind following the empirical psychology of Baumgarten's *Metaphysica*. Drawing also on Pollok's classification of Kantian texts according to their scholarly reliability (Pollok, *Kants „Metaphysische Anfangsgründe der Naturwissenschaft“: Ein kritischer Kommentar*, 20–21) – where lecture transcripts, being third-party transcriptions of Kant's lectures, occupy the lowest rank – I prioritize the *Reflexionen*. Although these are unedited fragments, they were composed by Kant himself and constitute a direct expression of his evolving reasoning. Regarding the role of Kant's notes as an example of his philosophizing, see Laywine, “Kant's Laboratory of Ideas in the 1770s”, 63–64.

6 KrV, A 126.

7 KrV, A 65/B 90.

concepts [*Grundbegriffe*] – later the categories – grounded in the spontaneity of the understanding taken as the capacity of formal determination of cognition and as the principle of synthetic unity.

The article proceeds as follows. While examining Kant's initial conception of the understanding as the faculty of distinct cognition, Section 2 shows Kant's evolving rejection of the law of identity as the universal formal principle of cognition. Section 3 presents Kant's systematization of two distinct forms of cognition – analytic, rational versus synthetic, empirical – and the consequent elaboration of synthesis as the action underlying a form of cognition that accounts for real relations. As Sections 4 and 5 outline, this inquiry leads Kant to identify the principle of the form of synthetic cognition progressively with pure concepts arising from the spontaneity of the understanding and thereby serving as both determining conditions of experience, and laws of synthetic unity.

2 The Faculty of Distinct Cognition

In the early phase of his thought, Kant examines the understanding from the standpoint of logic. While his early metaphysical writings focus primarily on the fundamental principles of cognition, it falls to logic to clarify the operation of each cognitive faculty. Precisely in a work on logic, in *The False Subtlety of Four Syllogistic Figures* (1762), Kant offers one of his earliest definitions of the understanding.

It is equally obvious that *understanding* and *reason*, that is to say, the faculty of cognising distinctly and the faculty of syllogistic reasoning, are not different *fundamental faculties*. Both consist in the capacity to judge; but when one judges mediately, one draws an inference.⁸

Along with understanding and reason, Kant also ties inner sense – “the faculty of making one's own representations the objects of one's thought”⁹ – to judgment. While apprehension carried out by inner sense lies at the basis of the capacity to judge by conveying complex representations of a thing, the operations of distinct cognition and inference consist in abstracting and comparing these representations in order to acquire, respectively, a distinct and an adequate cognition of the apprehended thing.¹⁰ Within this framework, the understanding forms a distinct concept of an object by identifying its characteristic marks and expresses this operation through a judgment, i.e., by relating the concept of a thing as a subject to the characteristic marks as its predicates.

The *False Subtlety* draws largely on the Wolffian logical framework.¹¹ While Kant writes this work to contest Wolff's attempt to reduce all syllogistic figures to the first categorical one, his account of the faculties of the mind mirrors Wolff's Aristotelian threefold division: simple apprehension, judgment, and inference. This continuity between both German philosophers extends beyond these three operations. Although Kant rejects Wolff's deduction of all metaphysical principles from the single principle of identity and contradiction already in the *New Elucidation* (1755),¹² he still maintains that every true judgment ultimately rests on the principle of identity and is therefore analytic.¹³ Thus, the task of the understanding is to acquire distinct cognition by uncovering the identity relation between a thing and its characteristic marks, and to represent this relation in a judgment where the predicate is conceived as contained in the subject's concept.

⁸ DfS (*The False Subtlety*), 2: 59.

⁹ DfS, 2: 60.

¹⁰ The *Herder Lectures on Metaphysics* reprise this early division of the cognitive faculties, defining inner sense as a preliminary ground for the operations of the understanding and reason. V-Met/Herder, 28: 79. See also V-Met/Herder, 28: 6, 59–67. The *Herder Lectures* exhibit many points of overlap with the *False Subtlety* and the *Inquiry*. Given these affinities and, more importantly, the problematic nature of the Herder material, particularly the Menzer transcriptions, I will limit the reference to these lectures to footnotes. For an in-depth discussion of scholarly status of the Herder material, see Naragon, “Reading Kant in Herder's Lecture Notes”.

¹¹ For the discussion of Wolff's influence on Kant's early logic, especially in the *False Subtlety*, see Dyck “The Priority of Judging”.

¹² ND (*New Elucidation*), 1: 388–391.

¹³ DfS, 2: 60–61.

In the *Inquiry into the Distinctness of the Principles of Natural Theology and Morality* (1764), Kant reframes the claims of the *False Subtlety* from a methodological standpoint, prior to any epistemological framework.¹⁴ He opens the essay by defining analytic and synthetic methods of cognition. The analytic method consists in “separating out” the characteristic marks of things, while the synthetic method consists in the “arbitrary combination of concepts.”¹⁵ For Kant the analytic method is proper to philosophical inquiry, while the synthetic method applies exclusively to mathematics and geometry.¹⁶ Mathematics proceeds synthetically by constructing definitions from which further consequences may be deduced. Metaphysics, by contrast, should draw on the Newtonian method: starting from the observation of a given representation, one traces its characteristic marks through comparison and abstraction.¹⁷

Although this methodological distinction further distances Kant from Wolff, it leaves intact the logical conception of judgment and therefore also the account of the operation of the understanding in judgment formation. The logical structure of cognitive judgments remains subject to the law of identity. Only material principles – indemonstrable fundamental judgments [*Grundurteile*] whose truth is immediately evident – are exempt from this law in their content; yet their formal structure as judgments conforms to it.¹⁸ As the present investigation will show, Kant’s challenge to the universal validity of the principle of identity and his consequent distinction between pure logical and real or empirical domains mark a first step toward a new conception of the understanding and of its fundamental laws.

The *Dreams of a Spirit-Seer* (1766) contains Kant’s explicit doubt regarding the universal validity of the law of identity. In this work, he observes that it is “impossible for reason ever to understand how something can be a cause, or have a force; such relations can only be derived from experience. For our rule of reason only governs the drawing of comparisons in respect of *identity* and *contradiction*.”¹⁹ At the end of the *Dreams*, Kant reflects on the limits of the analytic method he had previously assigned to philosophy and metaphysics. Although philosophy “serves to unravel the complex phenomena and reduce them to simpler representations”, some fundamental grounding relations – “cause and effect, substance and action”²⁰ – cannot be grasped according to the principle of identity.

Several of Kant’s *Reflexionen* on metaphysics explore this distinction between logical and real relations.²¹ While the logical relation ultimately concerns the identity between the subject and its predicates within a judgment, the real relation is inherently synthetic and grounded in the nature of things.²² Kant develops this opposition further in the *Attempt to Introduce the Concept of Negative Magnitudes into Philosophy* (1763). Here he distinguishes the formal necessity of identity and non-contradiction from the material grounding of real,

14 Anderson, *The Poverty of Conceptual Truth*, 179–205, identifies three distinct senses of Kant’s analytic/synthetic distinction: 1) a methodological sense, as discussed in this section with regard to the *Inquiry*; 2) an epistemological sense, present especially in Kant’s early writings, where analytic cognition is rational and objective and synthetic cognition empirical and subjective; and 3) a logical sense, which Anderson interprets as genuinely critical, framing the distinction as two irreducible types of judgments grounded in the unity rather than the containment relation of representations. I agree with Anderson’s threefold distinction and periodization of the emergence of the critical sense, namely after 1772. However, I think that the epistemological sense of the analytic/synthetic distinction, as outlined in the *Dissertation* and in contemporary notes, lays the groundwork for the critical sense: Kant’s dualism of coordination and subordination delineates two irreducible cognitive forms, thereby enabling the redefinition of synthetic judgments as unifying relations of representations.

15 UD (*Inquiry*), 2: 276.

16 UD, 2: 289. See also V-Met/Herder, 28: 155–156.

17 UD, 2: 286.

18 In the *Inquiry* Kant illustrates this with “the proposition: all bodies must consist of simple substances,” UD, 2: 286. The full argument runs from UD, 2: 285–295. The *Herder Lectures* present fundamental judgments as material principles that prescribe rules for comparing predicates with a subject. V-Met/Herder, 28: 9. For an analysis of this in the *Herder Lectures*, see Fugate “The Unity of Metaphysics in Kant’s Lectures”, 65–73.

19 T (*Dreams of a Spirit-Seer*), 2: 370.

20 Ibid.

21 R (*Reflexion*) 3756, 17: 284, 1764–66; R 3928, 17: 350, 1769; R 3951, 17: 362, 1769; R 4004, 17: 382, 1769; R 4162, 17: 439–440, 1769–70; R 4174, 17: 444, 1769–70; R 4201, 17: 454–455, 1769–70; R 4204, 17: 455, 1769–70; R 4371, 17: 522–523, 1771; R 4415, 17: 537–538, 1771; R 4481, 17: 568, 1772.

22 R 3928, 17: 350, 1769.

synthetic relations.²³ Since the form of all judgments remains under the law of identity, only through concepts we can represent the ground of real relations. In an early note on Baumgarten's *Metaphysica*, Kant identifies space, time, and force as instances of fundamental concepts of real relations.²⁴

As the following section illustrates, Kant's distinction between two forms of cognition, each governed by its own principles, allows him also to account for the cognition of real relations. The *Inaugural Dissertation* contains the articulation of these dual cognitive frameworks: empirical, synthetic cognition versus rational, analytic cognition.

3 Two Forms of Cognition

The *Inaugural Dissertation – De mundi sensibilis atque intelligibilis forma et principiis* – (1770) marks Kant's first systematic separation of sensibility and understanding as irreducible cognitive sources, thereby offering an early specification of the act of synthesis underlying empirical cognition through the notion of coordination. Whereas the *False Subtlety* subsumes both faculties under the capacity to judge, the *Dissertation* establishes their heterogeneity as irreducible cognitive sources.

Sensibility is the *receptivity* of a subject in virtue of which it is possible for the subject's own representative state to be affected in a definite way by the presence of some object. *Intelligence* (rationality) is the *faculty* of a subject in virtue of which it has the power to represent things which cannot by their own quality come before the senses of that subject.²⁵

Intellectual cognition opposes sensible cognition because of their different origins and forms.²⁶ First, appearances arise from the receptivity of the subject, while noumena are pure intellectual representations.²⁷ Second, the forms of sensibility are the pure intuitions of space and time, whereas the understanding brings forth representations "by means of universal concepts in the abstract, not by means of a singular concept in the concrete."²⁸ Thus, the distinction between sensibility and the understanding lies in the different character of the cognition proper to each faculty: sensible cognition is intuitive, singular, and concrete; intellectual cognition is discursive, general, and abstract.²⁹

In the *Dissertation*, this distinction implies not merely different representations but two distinct realms: *phenomena* for sensible cognition and *noumena* for intellectual cognition. Kant elaborates this contrast also through the distinction between the logical and real use of the understanding.³⁰ While the logical use analyzes representations in general – whether empirical or intellectual –, the real use of the understanding is about noumena, i.e., "concepts, whether of objects or of relations," that "are given by the very nature of the

²³ See Kant's concluding remarks in NG (*Negative Magnitudes*), 2: 201–204.

²⁴ R 3716, 17: 257–259, 1762–63. Following Schulthess, *Relation und Funktion*, 153, Kant's inclusion of force draws on Crusius's theory of *Realverknüpfung*, wherein causal force grounds real relations in space and time. This is corroborated by the *New Elucidation* and the *Herder Lectures*, where Kant explicitly engages with Crusius's account of grounds. See ND, 1: 392; V-Met/Herder, 28: 11–12. For a detailed discussion of Kant's treatment of grounds in his metaphysics lectures, especially the real grounding relation, see Stang, "A Guide to Ground in Kant's Lectures on Metaphysics".

²⁵ ID (*Inaugural Dissertation*), 2: 392. This passage recalls the passage cited in the introduction of this article from the Transcendental Logic in the first *Critique* (KrV, A 51/B 75), although here Kant replaces *intelligence* with *spontaneity*. As the footnote at B 158 suggests ("yet this spontaneity is the reason I call myself an intelligence"), spontaneity specifies the broader concept of intelligence understood as the rationality of the subject.

²⁶ See also R 1730, 16: 95, ca. 1769–70.

²⁷ See ID, 2: 392. While emphasizing the genetic distinction between sensible and intellectual representations, Carl draws a parallel with Locke. Accordingly, phenomena correspond to what Locke calls secondary qualities, whereas noumena invoke his notion of primary qualities. See Carl, *Der schweigende Kant*, 20.

²⁸ ID, 2: 396.

²⁹ For an in-depth discussion of Kant's dualism of sources of cognition, see Heidemann, *Das Einzelne und das Allgemeine*. Heidemann's reconstruction of Kant's dualist epistemology aims to trace how the early distinction between both cognitive sources anticipates Kant's later critical doctrine. Against this more general background, this article focuses on Kant's early dualism to show its crucial role in the emergence of Kant's critical account of synthesis as the understanding's activity.

³⁰ ID, 2: 393–396.

understanding.”³¹ Crucially, sensible representations do not acquire intellectual form through analysis. “For they are called sensitive *on account of their genesis* and not on account of their *comparison* in respect of identity or opposition.”³²

Another innovation in the *Dissertation* – specifically relevant for the purposes of the present analysis – is Kant’s attribution of synthesis to empirical cognition. By introducing coordination as the synthetic act of sensible cognition, he departs significantly from his earlier view that distinct cognition reduces entirely to the analysis of representations. As Tonelli observes, Kant’s treatment of coordination and its specific laws reveals the need to distinguish the conditions of empirical cognition from rational cognition, which proceeds through subordination of representations according to the law of identity.³³ As the following sections of this article show, the introduction of a novel synthetic mode of cognition governed by synthetic fundamental concepts is what enables Kant to conceive the spontaneity of the understanding in a new way, namely as grounding the synthesis of cognition.

In the *Dissertation*, coordination occurs according to some laws of the mind. “In a representation of the sense there is [...] something which may be called the *form*, the *aspect* namely of sensible things which arises according as various things which affect the senses are co-ordinated by a certain law of the mind.”³⁴ A manifold of representations must be combined in accordance with space and time as it should “be thought as constituting a unity.”³⁵ As §4 of Section 2 concludes,

if the various factors in an object which affect the sense are to coalesce [*coalescant*] into some representational whole there is needed an internal principle of the mind, in virtue of which those various factors may be clothed with a certain *aspect*, in accordance with stable and innate laws.³⁶

Here Kant identifies two pivotal aspects that later prove essential for his critical conception of synthesis.³⁷ First, the representation resulting from the act of coordination constitutes a unified whole, i.e., a unity whose meaning and function are irreducible to the mere sum of its coordinated parts.³⁸ Second, the form of the whole is determined in accordance with *a priori* laws, making thereby both the synthetic act and the resulting unity necessary. What remains absent in the *Dissertation*, however, is an account of the principle grounding the objective unity of synthesis, namely, what Kant later in the *Duisburg Nachlass* identifies with the spontaneity of the understanding itself.

The major limitation of the *Dissertation* – as Allison points out – is its failure to ascribe a specific function in experience to the understanding.³⁹ By rigidly separating sensibility and understanding, Kant cannot explain how concepts relate to sensible intuitions. Yet this separation allows him, in my view, to delineate coordination and subordination as two distinct acts of cognition and thereby lay the groundwork for an account of synthetic cognition irreducible to analysis. Several *Reflexionen*, in which Kant also contrasts coordination and subordination, support this interpretation.⁴⁰ Contrary to the *Dissertation*, where coordination belongs to sensibility,

³¹ ID, 2: 394.

³² ID, 2: 393.

³³ Tonelli, *Die Umwälzung von 1769 bei Kant*, 371.

³⁴ ID, 2: 292–293.

³⁵ ID, 2: 392.

³⁶ ID, 2: 393.

³⁷ Allison, *Kant’s Transcendental Deduction*, 56, also notes that the synthetic function Kant initially assigns to sensibility is later ascribed to the understanding or imagination on the ground of the unity of apperception. As this article shows, this holds because, in his notes contemporary to the *Dissertation*, Kant elaborates coordination as an intellectual, yet synthetic act opposed to the rational, analytic act of subordination.

³⁸ Kant’s use of *coalesco* suggests this interpretation. Likely he was influenced by Achenwall’s *Ius Naturae*, where *coalesco* describes societal unification. See Achenwall, *Natural Law*, 113–115, 127, 130, 172, 185. See also Kant’s note to the passage at p. 113 in Achenwall’s text, R 7331, 19: 335, 1776–78. This meaning of *coalesco* traces back likely to the Latin political tradition. Scheller’s Latin-German dictionary cites Livy verb *coalesco* in terms of unification or combination [*sich vereiningen, sich verbinden*]. See Scheller, *Lexicon oder Wörterbuch*, 1887–1888.

³⁹ Allison, *Kant’s Transcendental Deduction*, 58.

⁴⁰ R 3766, 17: 288, 1764–66; R 3928, 17: 350, 1769; R 4048, 17: 397, 1769. See also R 3889, 17: 328, 1766–68; R 3925, 17: 349, 1769; R 3935, 17: 354, 1769; R 3941, 17: 356, 1769; R 3976, 17: 372, 1769.

these notes assign it to the understanding while reserving subordination for reason. This shift marks Kant's elaboration of synthesis as an intellectual act, although distinct from subordination. Kant emphasizes in these notes that subordination exemplifies the analytic operations of rational cognition, whereas coordination aims at the cognition of the whole through the synthesis of its parts [*compartes*].⁴¹ Accordingly, the contrast between the understanding and reason allows Kant to further specify synthetic cognition as the act determining how parts relate within a unified whole according to laws.

After the *Dissertation*, Kant elaborates further on the synthetic operation of the faculty of the understanding. This further shift from the view of the understanding as primarily a faculty of analytic cognition – which is especially apparent in his marginalia to Baumgarten's *Metaphysica* – stems partly from his dissatisfaction with the *Dissertation*,⁴² and partly from his emerging hypothesis in the late 1760s that concepts can serve as the law governing the synthetic cognition. The following sections trace this development into the categories. As we shall see, recognizing the constitutive role of pure fundamental concepts in synthetic cognition enables Kant's critical reconception of the understanding as the faculty of synthesis according to *a priori* rules. Spontaneity grounds the objective-formal validity of judgments precisely because these conceptual rules express the self-activity of the understanding.

4 Fundamental Concepts and Conditions of Synthesis

Kant's *Reflexionen* contain another important step in his redefinition of the understanding, namely the discussion of fundamental concepts [*Grundbegriffe*] as conditions for synthetic cognition grounded in the spontaneity of the understanding. Kant first identifies fundamental concepts with unanalyzable primary marks in the *Inquiry*; later, in his notes, he conceives them in terms of pure relational concepts that determine the form of experience.⁴³

In early notes on the *Metaphysica*, Kant links spontaneity to formal determination, noting that while cognition is passive in content, its form depends on the subject's self-activity [*Selbsttätigkeit*].⁴⁴ Following the Scholastic principle “*forma dat esse rei*”,⁴⁵ he holds that rationality gives form to the sensible matter. Crucially, however, formal determination still proceeds through the analysis of characteristic marks in this early phase. Kant specifies only throughout the 1770s that the form of the spontaneity of the understanding is synthetic unity.⁴⁶

As established in Section 2, Kant's rethinking of the activity of the understanding – from analysis to synthesis – develops from the recognition that the principle of identity, as the highest law of cognition, does not rule for the cognition of real relations like causality. To determine such relations, one must identify *a priori* laws grounding their cognition. By 1769, Kant claims it: “it is not possible that the understanding should begin from concepts and merely compare concepts analytically, if some rules do not ground the synthesis.”⁴⁷

⁴¹ Kant defines coordination in the *Dissertation*'s opening footnote as synthesis progressing “from a given part, through parts complementary to it, to the whole” ID, 2: 388n. Subordination, by contrast, regresses from consequences to their common ground.

⁴² See Kant's letter to Herz, dated February, 21st, 1772. Br, 10: 130–131.

⁴³ Kant presents fundamental concepts as unanalyzable primary marks also in the *Inquiry*, UD, 2: 281. With regard to fundamental concepts, also Lambert's influence should be mentioned. Especially Lambert's letters to Kant, dated 1765–66, show an agreement between Lambert's and Kant's views; see Br, 10: 51–58, 62–67. The main difference in their views, which is established definitively after 1772, lies in the origin of such simple concepts: derived from experience in Lambert's framework, pure and grounded in the activity of the understanding in Kant's thought. For a more general discussion of Lambert's influence on Kant in the pre-critical period beyond fundamental concepts, see Del Bianco, “The Scientificity of Metaphysics in Lambert and the Precritical Kant; Laywine, “Kant in Reply to Lambert on the Ancestry of Metaphysical Concepts”, which focuses on Kant's and Lambert's exchange in the 1700s; and Schönfeld, *The Philosophy of the Young Kant*, 226–227.

⁴⁴ See R 3851, 17: 312, 1764–68. *Selbsttätigkeit* is a German term that was employed as an alternative to *Spontaneität* in the early 1700s to render the Latin *spontaneitas*. For a more detailed examination of how these two expressions entered the philosophical vocabulary of the early German Enlightenment, see Kawamura, *Spontaneität und Willkür*, 57.

⁴⁵ R 3850, 17: 312, 1764–68, addition dated 1768–76.

⁴⁶ See R 4807, 17: 734, 1775–76: “Einheit ist die Form des Verstandes. Verbindung des Manigfaltigen mit Einem. Einheit: Verstand.”

⁴⁷ R 3914, 17: 341, 1769.

In a later addition to R 3747, Kant specifies that *a priori* principles of synthetic cognition are the formal principles of cognitive faculties, whether sensibility or understanding.⁴⁸ This recalls his earlier link between spontaneity and formal determination: the form of cognition depends on the activity of the mind. In R 3717 Kant distinguishes empirical from rational cognition by their highest formal principle. Space and time are the “*principium* of the form of all experiences”; the law of identity, the “*principium* of the form of all judgments of pure reason”; and fundamental concepts like ground or force – concepts of real grounding relations – the “*principium* of the form of all *a posteriori* judgments.”⁴⁹ Kant will later specify fundamental concepts as the principles of the form of all synthetic judgments of cognition, both *a priori* and *a posteriori*.

During the 1770s, Kant further develops the distinction between logical and real relations by connecting it to the distinction between subordination and coordination.⁵⁰ While logical relations are grasped through subordination within the conceptual sphere [*sphaera conceptuum*], real relations such as inherence are cognized through coordination. Consequently, real relations – and the synthetic cognition they require – transcend the domain of formal logic by referring directly to spatiotemporal objects and require a new logic of experience. This move paves the way for Kant’s transcendental logic: real relations are grasped not by analytic judgments but by constitutive *a priori* synthetic principles.

As Kant notes in his *Reflexionen*, fundamental concepts derive from the laws of the understanding. They express a subjective necessity inherent in the discursive nature of the understanding: e.g., one cannot conceive an object except through the relation of inherence between substance and its accidents.⁵¹ Alongside substance, Kant identifies also ground [*ratio*] and compound [*compositum*] as fundamental concepts.⁵² As we shall see, he argues that these relational concepts not only convey the unifying relations necessary for thought but also arise when the understanding reflects on [*hat Acht auf*] its own operations.⁵³ That fundamental concepts, both empirical and pure, arise from judgment – the act of ordering representations while determining relations between them – means that they arise “from the law of the understanding for comparing, combining, or separating” concepts.⁵⁴ Commenting on this note, R 3930, Carl emphasizes that the laws governing these operations dictate which relations between representations are possible, whether analytic or synthetic.⁵⁵ Although Kant includes in his remark also the analytic operations of the understanding, the present analysis focuses now on synthetic relations, as they crystallize his novel conception of the understanding as opposed to the Leibnizian-Wolffian tradition.

Accordingly, Kant expands the connection between fundamental concepts and the activity of the understanding, which no longer consists merely in comparison and abstraction. As in R 3927: “Through the nature of the understanding, not *abstrahendo* but rather *iudicando*, arise the fundamental concepts of *synthesis*.”⁵⁶ This note reveals one of Kant’s pivotal claims in this phase: fundamental concepts cannot originate from analysis. They arise from the activity of the understanding insofar as they are constitutive for the possibility of empirical cognition.⁵⁷ As Kant observes, they “cannot be found through any *analysin* of experience, although all experience is coordinated to them.”⁵⁸

As his *Reflexionen* show, Kant repeatedly asks how the origination of *a priori* concepts can be explained.⁵⁹ He rejects both innatism and the view that pure concepts are acquired *a posteriori* from experience. In R 4866 he

⁴⁸ R 3747, 17: 281, 1764–66.

⁴⁹ R 3717, 17: 260, 1764–66.

⁵⁰ R 4371, 17: 522–523, 1771.

⁵¹ R 4158, 17: 438, 1769–70.

⁵² R 4371, 17: 522–523, 1771. These concepts (substance, ground, compound) recall the categories of relation, which Kant’s *Reflexionen* during the 1770s systematically analyze.

⁵³ R 4158, 17: 438, 1769–70.

⁵⁴ R 3930, 17: 352, 1769.

⁵⁵ Carl, *Der schweigende Kant*, 29.

⁵⁶ R 3927, 17: 349, 1769.

⁵⁷ See R 4039, 17: 393–394, 1769, where Kant characterizes concepts as self-active [*selbstthätig*].

⁵⁸ R 3974, 17: 371, 1769.

⁵⁹ See R 4470, 17: 563, ca. 1772, where Kant asks this specific question: “Die erste Frage ist: wie in uns Begriffe entstehen können, die uns durch keine Erscheinung der Dinge selbst bekannt geworden.”

enumerates the principal accounts of this question contemporary to him and judges each of them defective. He mentions Locke, whom he characterizes as a physiologist of reason because he understands all concepts as empirical; Wolff, whom he labels a dogmatist who fails to address the problem of the source of *a priori* concepts; Lambert, whose critique to Wolffian account is insufficient; and Crusius, an innatist.⁶⁰ This remark perfectly captures Kant's dissatisfaction with the existing metaphysical systems and his attempt to formulate a genuinely innovative solution that departs from all of them. As this section illustrates, his novel account of the origination of pure concepts lies in them being grounded in the activity of the understanding on the occasion of possible experience, i.e., in the *a priori* synthesis of the understanding. As he puts it: "a pure concept of the understanding arises only from the form of judgments insofar as I make them synthetic (and thereby think an object)."⁶¹

Kant's final step in his account of fundamental concepts, which lays the groundwork for his critical notion of categories, is conceiving them as necessary conditions for empirical cognition. As several notes from 1769 confirm, they are fundamental *relational* concepts [*fundamentalVerhältnissbegriff*] presupposed in all empirical cognition.⁶² They serve as the determining condition for combining empirical data. In R 3978, Kant clarifies their role as conditions of experience using the distinction between archetype [*archetypon*] and image [*ectypon*], which recalls his later remarks in the letter to Marcus Herz, dated 1772.⁶³ In this letter, Kant observes that the cognition of the understanding is neither archetypal, i.e., the cause of the reality of the object, nor ectypal or receptive.⁶⁴ Similarly, following R 3978, fundamental concepts are neither causes of the reality of objects nor mere images. As discursive functions of the understanding, they are necessary conditions [*Bedingungsbegriffe*] for the possibility of cognition under the laws of thinking.⁶⁵

As the next, final section outlines, Kant progressively redefines fundamental concepts as rules of synthesis, definitively departing from the understanding as a faculty of analytic cognition. His focus shifts from "what flows from universal to particular in arbitrarily assumed relations in accordance with the rule of identity" to "which relations are really the primary grounds of general rules."⁶⁶ Namely, those "rules without which objects cannot be cognized by us at all."⁶⁷ As for fundamental concepts, these rules of synthesis are given "neither through the senses in experience nor through the understanding in an intuitive and individual concept."⁶⁸ They "flow [*fließen*] from the nature of human reason,"⁶⁹ more specifically, from the spontaneity of the understanding.

5 Categories: Rules and Functions of Synthesis

By the early 1770s, Kant identifies the "relations [that] are primary grounds of general rules" with categories. This appears in one of their earliest definitions: categories are the universal actions by which we think an object in general or appearances in relation to corresponding conceptual representations.⁷⁰ More specifically, categories are the expressions of the synthetic activity of the understanding. They represent the way in which a manifold of representations must be combined in order to think an object as a *unity*, a *whole* of representations.

At the end of his letter to Marcus Herz in 1772, Kant acknowledges that he "sought to reduce transcendental philosophy (that is to say, all the concepts belonging to completely pure reason) to a certain number of categories", arranged "following a few fundamental laws of the understanding."⁷¹ Like fundamental concepts, Kant

⁶⁰ R 4866, 18: 14, 1776–78.

⁶¹ R 5555, 18: 231, 1779.

⁶² R 3973, 17: 371, 1769. See also R 3988, 17: 378, 1769.

⁶³ R 3978, 17: 373–374, 1769.

⁶⁴ Br (*Correspondence*), 10: 130.

⁶⁵ R 3978, 17: 373–374, 1769.

⁶⁶ R 3948, 17: 360–361, 1769.

⁶⁷ R 3949, 17: 361, 1769.

⁶⁸ R 3948, 17: 361, 1769.

⁶⁹ R 3946, 17: 360, 1769.

⁷⁰ R 4276, 17: 492–493, 1770–71: "Categorien sind die allgemeinen handlungen der Vernunft, wodurch wir einen Gegenstand überhaupt (zu den Vorstellungen, Erscheinungen) denken."

⁷¹ Br, 10: 132.

establishes an immediate connection between the categories and the self-activity of the understanding. In the *Reflexionen*, Kant terms the synthesis of the understanding *actus* to highlight its *a priori* and universal nature.⁷² Categories are thus the expression of the synthetic activity of the understanding – its spontaneity – because they exhibit the same characters of universality. As we shall now see, this conception of categories as the *a priori* conceptual representation of the activity of the understanding ultimately leads to the critical conception of the understanding as the ground of the synthetic unity of cognition.

Already in the early 1770s Kant assigns categories the function that he previously ascribed to fundamental concepts, namely the function of fundamental relational concepts governing the synthesis of experience thereby being the conditions of the possibility of human cognition. As such, categories prescribe,

namely, how we can grasp *data* and form something for ourselves that is called cognition. In nature no *data* can come before us unless, when one perceives the laws therein, they correspond to the universal kinds according to which we posit something.⁷³

Cognition is possible for us only if the manifold of intuition is combined according to laws determining all relations of unity *a priori*. Categories fulfill precisely this role of unifying laws: they “express the manner of thinking objects in general,”⁷⁴ the *a priori* synthetic unity according to which the cognition of an object is formed.

To clarify how categories determine *a priori* the objective synthetic form of experience, Kant introduces in the 1770s the notion of function. As Kant observes in R 4672,

In order for appearances to belong to or be determined in accordance with certain rules, it is necessary that they be represented as belonging under one or another function of them. Thereby do they become determinate objects of thoughts; otherwise there is nothing in their relations (for sensations are not thoughts) that makes them thinkable for the understanding.⁷⁵

Kant adopts the Leibnizian concept of function in its mathematical meaning via Bilfinger.⁷⁶ In mathematics, a function unifies infinite variable relations under a fixed law, e.g., $y = f(x)$.⁷⁷ Translating this mathematical meaning to the scope of cognition, a function is the unity of the law of the combination of representations. Consider the example of causality.⁷⁸ Given x the representation of a cause, and given the category of causality as the function f of x , all y falling under the law of this function must be posited as effects of the cause x . Accordingly, the philosophical notion of function allows Kant to stress both the binding role of categories as synthetic laws and the universality of their validity as conditions of experience. Every empirical representation determined by a category acquires necessarily a specific position within the synthetic relation of a concept or a judgment: for the case of causality, it is either being the representation of the cause or the accident of something else.

The notion of function becomes thus a constitutive feature of Kant's account of the synthetic activity of the understanding. As Kant observes in the *Duisburg Nachlass*, the “*relationes* of appearances” depend not on “forms but rather [on] functions.”⁷⁹ This remark further distances Kant from his account of coordination in the *Dissertation*. Not space and time as forms of intuition, but functions, categories, are the determining ground of synthetic unity. In the *Nachlass*, Kant clarifies that the synthesis of representations consists in connecting them

⁷² See R 4631, 17: 615, 1772; R 4642, 17: 622, 1772. Kant often uses the Latin term *actus* in the first *Critique*, especially in the Transcendental Deduction, to characterize the spontaneity of the understanding, the apperception, and the act of synthesis. See KrV, A 103–104, B 111, B 130, B 132, B 137, B 156n, B 157–158n. For a further analysis of Kant's notions of act and action and their development, see Gerhardt, “Handlung als Verhältnis von Ursache und Wirkung”.

⁷³ R 4631, 17: 615, 1772. See also R 4882, 18: 18, 1776–78.

⁷⁴ R 4638, 17: 620, 1772.

⁷⁵ R 4672, 17: 636, 1773–75.

⁷⁶ See Schulthess, *Relation und Funktion*, 223–224; 231ff. Also Heidemann, *Das Einzelne und das Allgemeine*, 171, stresses the mathematical background of Kant's notion of function. Kant claims in the Preface of *Negative Magnitudes* that the application of some mathematical concepts in philosophy can be beneficial; NG, 2: 167. In R 4937, 18: 34, 1776–78, Kant draws an explicit comparison between the use of function in philosophy, especially in logic, and in algebra.

⁷⁷ For the mathematical meaning of function I draw on the analysis in Schulthess, *Relation und Funktion*, 233–240, to highlight the bindingness of categories as laws of synthetic unity and their universal validity.

⁷⁸ In R 4629, 17: 614, 1772; and R 4638, 17: 620, 1772, causality is mentioned as an example of a concept of the understanding determining the function of representation within the unity of a judgment.

⁷⁹ DN (*Duisburg Nachlass*), R 4674, 17: 643, 1775.

“for constituting a whole.”⁸⁰ The whole resulting from the act of synthesis is a unity whose universal validity stems not from the representational content, but on the way in which “the manifold is brought into one.”⁸¹ As a consequence of his account of the origin of pure fundamental concepts from the self-activity of the understanding, as outlined in his previous notes, Kant now argues that the validity of the synthetic unity of experience rests on the understanding itself as “the archetype [*Urbild*] of such a *synthesis* through original and not through derivative thinking.”⁸² The *Duisburg Nachlass* presents the activity of the understanding as a *principium*, i.e., a primary, universal principle that grounds *a priori* the possibility of synthetic cognition.⁸³ It crystallizes thus a pivotal element of Kant’s evolving conception of the understanding over these years. The understanding is the autonomous source of all synthesis, with categories serving as universal forms of synthetic unity and thereby laws for all possible experience. The possibility of experience relies on the activity of the subject, for no other condition, law or ground is required for the constitution of experience other than those given *a priori* by the subject itself. More precisely, the spontaneous actions of the understanding are the source of the possibility of the synthetic form and thus of the objectivity of experience.

Despite ambiguity about the status of apperception as self-consciousness – whether empirical or *a priori* – Kant begins in the *Duisburg Nachlass* to articulate it as the highest principle of synthesis inherent in the spontaneity of the understanding.⁸⁴ In these fragments, the conception of apperception as transcendental unity is still in a preliminary and undeveloped form and culminates, in my view, only in the B Deduction, where apperception is explicitly defined as “the supreme principle of all use of the understanding.”⁸⁵ Nonetheless, Kant holds around 1775 a genuinely critical conception of the understanding, since the idea that it functions as the highest principle of synthetic cognition is already present.

In conclusion, by tracing Kant’s evolution from the faculty of distinct cognition to the source of synthetic unity – though theoretical writings, fragments, and marginalia – this article demonstrates why spontaneity signifies for the understanding the action of synthesis of cognition. Kant departs from the initial conception of the understanding of the Wolffian tradition by first contesting the validity of the law of identity as supreme formal principle of all judgments. To explain the possibility of cognition of real relations of things like causality, Kant elaborates in a second step the distinction between sensibility and understanding as sources of different forms of cognition, each governed by their own set of laws. Especially through the discussion of coordination as synthetic act opposed to subordination, which is proper to rational cognition, he identifies synthesis rather than analysis as

⁸⁰ Ibid. In this regard, Laywine, “Kant’s Metaphysical Reflections in the *Duisburg Nachlass*” advances an interpretation of the *Duisburg Nachlass* that sees in it a connection with Kant’s early cosmology. Especially the notion of whole lets her argue for this connection and for the parallel between God as *causa prima* of the world and the thinking subject as the common ground for the whole of experience.

Contrary to Laywine, I think that the notion of whole and the passages around it show that the continuity is rather to draw with Kant’s characterization of the act of synthesis underlying empirical cognition in the first sections of the *Dissertation*, namely the act of coordination. With that said, I also think that there is a connection between Kant’s early cosmology and his later critical account of possibility of experience, but with regard to the notion of *principium*. As I elaborate at the end of this article, Kant’s demand for an ultimate, unconditioned ground of a series of possibilities, first elaborated in his early cosmology with regard to the concept of God as the absolutely necessary being and to transcendental freedom, is translated in his critical theory of experience, now with a transcendental rather than metaphysical-ontological function: the objective unity of experience is grounded on an original *a priori* synthetic unity serving as highest principle, viz., *principium* of all possible experience.

⁸¹ DN, R 4674, 17: 643, 1775.

⁸² DN, R 4674, 17: 647, 1775.

⁸³ See DN, R 4677, 17: 660, 1775; DN, R 4678, 17: 660–661, 1775.

⁸⁴ The notion of apperception occurs already in the *Duisburg Nachlass*. Here Kant defines apperception as “the consciousness of the subject which apperceives as that which is given in the whole of time is necessarily connected with it,” DN, R 4676, 17: 656, 1775. Nonetheless, this definition does not amount to the critical notion of the transcendental unity of apperception since the distinction between apprehension and apperception is still missing in the *Nachlass*. I do not expand here on the notion of apperception both because Kant’s elaboration of the novel notion of transcendental self-consciousness extends beyond the scope of the article, and Kant’s identification of the understanding with the role of principle of synthetic unity in the *Duisburg Nachlass* is retained also in the *Critique*, see KrV A 119, and B 134n: “the synthetic unity of apperception is the highest point to which one must affix all use of the understanding [...]; indeed this faculty is the understanding itself.”

⁸⁵ KrV, B 136.

the key action underlying empirical cognition in general. Accordingly, the cognition of real, i.e., non-analytic relations requires a new set of laws irreducible to analysis. As a further step, having rejected the law of identity as the highest formal principle of empirical cognition, Kant identifies the laws of the synthetic form of experience in the faculty of the understanding and its self-activity, understood as the capacity for formal determination. These are initially fundamental relational concepts, which gradually he redefines in terms of *a priori* conditions and rules of cognition. The latter are namely the categories. They are *a priori* representations of the synthetic activity of the understanding, which, through its self-activity, has in itself the highest formal principle of synthetic unity. This identification of the spontaneity of the understanding with the highest principle of synthesis – which later in the *Critique* will be specified in the apperception – marks the final step of Kant's reconception of the understanding as spontaneous and law-giving faculty of synthetic cognition.

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