How Kant's response to empiricism uncovered the complex structure of human cognition: a phenomenological study of mental content

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ABSTRACT

Restoring the epistemological foundation of natural science through the identification of the synthetic unity of modal and counterfactual representations – those that presume the necessary character of the restricting possibilities of the empirical world – was Kant's principal goal in opposing Hume. But in order to do so, he had to significantly alter the empiricist theory of human cognitive capacity such that the idea of mind was no longer captured by a narrow definition of psychologism. Not only did he develop new explanations for synthetic or contentistic inferences (which were later technically developed by non-classical intuitionistic logical theories), but he also advanced the philosophy of mind toward an idealized representation of mental structures by extending our psychological knowledge to complex theories about the correlation between a priori concepts and intuitions. We will outline Kant's trajectory in this regard in the Critique of Pure Reason, including his absorption by Husserl's phenomenology in the nineteenth century, and offer conclusions regarding how these theories anticipated semantic solutions on the content of intentionality and mental content.

Keywords: Phenomenology. Mental content. Synthetic unity. Cognition.

Como a resposta de Kant ao empirismo revelou a complexa estrutura da cognição humana: um estudo fenomenológico do conteúdo mental

RESUMO

Restaurar o fundamento epistemológico da ciência natural através da identificação da unidade sintética das representações modais e contrafactuais – aquelas que presumem o carácter necessário das possibilidades restritivas do mundo empírico – foi o principal objectivo de Kant ao opor-se a Hume. Mas, para o fazer, teve de alterar significativamente a teoria empirista da capacidade cognitiva humana, de tal modo que a ideia de mente já não fosse capturada por uma definição estreita de psicologismo. Ele não apenas desenvolveu novas explicações para inferências sintéticas ou contentísticas (que mais tarde foram tecnicamente desenvolvidas por teorias lógicas intuicionistas não clássicas), mas também avançou a filosofia da mente em direção a uma representação idealizada de estruturas mentais, estendendo nosso conhecimento psicológico a teorias complexas. sobre a correlação entre conceitos a priori e intuições. Delinearemos a trajetória de Kant nesse sentido na Crítica da Razão Pura, incluindo sua absorção pela fenomenologia de Husserl no século XIX, e ofereceremos conclusões sobre como essas teorias anteciparam soluções semânticas sobre o conteúdo da intencionalidade e do conteúdo mental

Palavras-chave: Fenomenologia. Conteúdo mental. Unidade sintética. Conhecimento.

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Empiricist threats to the Foundations of Natural Science

Hume's problem challenges the notion of drawing necessary conclusions from given contingent premises, which is known as the "problem of induction". During the period of modernity, the inductive method gained prominence as the foundation of scientific inquiry, particularly through Francis Bacon's *Novum Organon* (2003). The problem of induction was not merely seen as a fallacious inference, but rather as a potential threat to our understanding of modern science's foundation. This skepticism towards the representability of inference arises from the fundamental difference between judgment representation or a theory of truth, and successful induction. Even though good induction allows us to discern recurring patterns and identify analogies that can serve as guiding principles for judgment, it does not establish the non-falsity of conclusions based on true premises. This is why inductive logic is often characterized as non-monotonic or defeasible. It assists in forming the most accurate opinion possible, but it does not provide knowledge of truth, as it lacks a rule that explains why a proposition is not false.

Even though it is persuasive when an analogy is used as a principle of projection, the inductive method fails to give consistent knowledge about matters of fact. An analogy can be conceptualized as the substance of a cognitive disposition, or the construction of a mental representation through what it intends to project from a previous parameter. We now know that this reasoning by analogy is particularly persuasive when a recursive principle is used for conceptualizing inductive patterns. However, Hume's skepticism was not refuted: as the author would say, analogical principles are mathematical tools, and as such cannot be used successfully to project matters of fact. They are mere relations between ideas. It is like recursion that it applies to relational or analogical similarities that we can project from a known case to an unknown one, i.e., to idealized scenarios (like predicting language's well-formed formulas). But when we start projecting to the empirical world, that knowledge turns out fallible. This fact is given more weight in *The New Problem of Induction* (Goodman), which demonstrates that projections are made under particular normative conditions rather than under empirical conditions: "only a statement that is lawlike – […] – is capable of receiving confirmation from an instance of it" (GOODMAN, 1983, p. 73).

Be that as it may, Hume was incredibly ahead of his time in conceiving this problem. Some layers of Hume's presuppositions must be noticed. The Scottish philosopher thinks that the analogical correspondence between two classes of evidence does not generate a conceptual representation of the *operating principle* between these classes and, in cases where this evidence accumulates over time, does not generate knowledge about the *efficiency*, or the most economic rule for the description of the connection: "If any one think proper to refute this assertion […] may at once shew us an instance of a cause, where we discover the power of an operating principle" (HUME, 1978, p. 159).

The bottom line: if we cannot discern which rule is the most economical in describing temporal connections, or, in other words, if rules can supersede each other in describing the passage from A to B in time, we will always fail to represent the *inductive uniformity* of this connection. The same sequence will also be described by some counter-inductive principle! The conceptualization of induction through recursive methods, therefore, can only work in non-temporal contexts, such as in mere relations of Ideas, where reason works without hindrance from the senses. For Hume: "algebra and arithmetic [are] the only sciences, in which we can carry on a chain of reasoning to any degree of intricacy, and yet preserve perfect exactness and certainty" (HUME, 1978, p. 79).

The contexts where reason works in pure Ideal grounds, however, are trivial for the author: truths whose knowledge was already contained in their previous parameters (relations of ideas). It does not help us to cross the boundaries of what we know and project it to what we still do not know. The principle by which we can draw an analogy between empirical models is fallible because it is based on past data. That data does not offer universal guidelines for judging.

This protagonism granted to sense-data experience by classical empiricists, as we can see, left the flank open to skepticism. Hume himself did not try hard enough to move away from this possible consequence. And because of this looseness he still causes difficulties for the interpreters who try to bring him back to a more moderate position conducive to scientific objectivity. One can say that the whole empiricism is confronted with the same dilemma. One part of Empiricism is happy to think about the representation of truth and the possibility of scientific truth either in an analytical way or in a purely inductive way. As the arbitrary order of historical or personal experience

always yields contingent knowledge that depends on the demonstrable spatiotemporal occurrence of the representation, the share that the mind has in formulating laws and representing the certainty reflects a diminished expression of "truth" – a fallibilist version – to the point where science itself would be reduced to enumerative induction. Our parameters of science would be vulnerable to refutation, not by further theorizing, but by the arbitrary occurrence of some future experience or accidental fact – as if it were as likely that the sun would not rise tomorrow as that it would rise. Indeed, for Hume, experience is neutral to the proposition that the sun will or not rise tomorrow: "even after the observation of the frequent or constant conjunction of objects, we have no reason to draw any inference concerning any object beyond those of which we have had experience" (HUME, 1978, p. 139).

The other part of empiricism is more theoretically-oriented and would advocate induction elimination. However the deductive aspect, being purely analytical, relies on an assumed or speculative alignment between theories and facts for its predictive capability. This alignment is subject to conjecture, as emphasized by Popper in the early 20th century. According to Popper (1935), a fact can only enhance our theoretical understanding through refutation, which involves the process of *modus tollens*. Since the possibility of falsity is never excluded in empirical judgments and we can only deduct one problematic theory from a less problematic one (using facts as mere parameters of refutation), reasonable people would have to deal with a worldview that can only cause uncertainty and crises.

From the empirical problem to the problem of Mental Content: How to determine content on conflicting grounds

David Hume highlights the limits of our psychological ability to transform potential knowledge acquired through induction or association into active knowledge (in the sense of "usable" knowledge, or an asset for cognition: to judge). He does that by doubting we have any objective measure or projection method to make that transformation. The difficult part of the conversion process is figuring out the objective parameter that would allow it to be valid regardless of the situation or context. Since Hume rejects metaphysical notions like substance and causality, his treatise is a series

of scathing critiques of attempts to provide a perfect unity by which to compare the parallels between disparate empirical events:

> There is no object, which implies the existence of any other if we consider these objects in themselves, and never look beyond the ideas which we form of them. Such an inference . . . wou'd imply the absolute contradiction and impossibility of conceiving anything different. But as all distinct ideas are separable, tis evident there can be no impossibility of that kind (HUME, 1978, p. 86-87).

This does not mean, however, that we are incapable of converting the knowledge gained from the past into quantifiable expectations for the future, nor that we lack the will to do so. According to Hume, the difficult element is that these expectations must be maintained inside their own mental space. No proof of a connection with the external world can be given. The skeptical philosopher thinks that the projective mechanisms that operate conversion from potential (conjectural) to active (assertible) knowledge are solely reliant on our imagination, which is in turn based on our habits.

The fragility of this parameter is apparent, just like our dreams are bad measures to judge what is real. Hence, the boundaries of our efforts to convert imaginable possibilities into actual knowledge (usable assets for judgment) never cross the limits of uncertainty; it never crosses the sphere of problematic to the sphere of actual cognition. Hume concludes with two resigning messages: that regulating our knowledge of what is possible based on our understanding of the present is an inevitable task, albeit one with limited usefulness. This inevitability arises from the necessity of propositionally stating our expectations in order to communicate and test them. Plus, it arises from the necessity of stating those expectations propositionally, as content, relying on a rule that can be either confirmed or rejected. However, the value of these expectations remains conjectural and contingent upon our imagination, which would be the last parameter of human affairs. As the imagination has the prerogative to create images, signs may be the next authorized step. But signs produce empty formalisms, and from a nominalist point of view, they do not authorize any attribution of categorical "content".

Extra-logical principles for scientific representation and transcendental representations of cognitive complexity

Doubts regarding the basis of empirical science stem from a specific viewpoint concerning the limits of our cognitive capabilities. This correlation is not coincidental, as the primary goal of natural science is to present a comprehensive representation of our most reliable knowledge about the external world. Hence, if it fails to progress from hypothetical to conclusive assertions, our ability to depict our cognitive comprehension of the external world also falters. So the inductive problem teaches that our very ability to judge if something is true may be compromised. It teaches that the very idea of judgment is threatened under very complex conditions, in which we cannot discern evidence in favor of or against a proposition p. As the grounds for p can be counterbalanced by a counter-inductive principle, nothing prevents the same principle that governs our assent to p from contributing to denying p in a different theoretical or linguistic context. To specify the circumstances in which "p" can be asserted, it is not feasible to rely on a single rule or analogy. Instead, an increase in the number of rules is required to ensure an interpretation of "p" that does contradict "not-p", one of the reasons for intuitionism to deny the "innocent" logical foundation of the law of the excluded middle. Indeed, this augmentation in rules inherently escalates the risk of conflicting rules.

We are also less able to present "p" in a "judging" format due to the increased complexity involved in going from less direct to more granular knowledge. This is because attempting to determine whether the granular content is true would be prone to contradictions and indeterminacy. Let us state this in another format: A representation either has no content or its content is sufficiently hermetic to cause confusion or knowledge that is equally favorable to p and non-p if it is not selective enough to specify its counter-extension. If it isn't selective enough to stop people from asserting both p and not-p, it's also not selective enough to stop people from asserting any r (as long as the person making the judgment isn't using paraconsistent techniques to stabilize the explosive effects of the contradiction). And so we are doomed to live in judgmental promiscuity and in the impossibility of judging or asserting unless a new cognitive faculty – something like a paraconsistent one – can save us.

Kant himself had a paraconsistent-friendly logical option in his transcendental logic: "For although a cognition may be in complete accord with logical form, i.e., not contradict itself, yet it can always contradict the object" (KrV A 60/ B 85)[1] – as well as in some regulative uses of reason: "both principles can very well coexist with one another, as merely heuristic and regulative" (KrV A 617/B 645). But Kant made a point of warning not to confuse logical use with transcendental use, as the second depends on the "feasibility of a synthesis" – which in turn involves our ability to represent the structural order of possible experience in an intelligible way. This demonstrates that getting out of this impasse without some notion of cognitive complexity is difficult and that, for Kant, the logical part of our knowledge does not exist alienated from the part of our knowledge engaged in knowing the structure of the empirical world.

Our scientists will be safe because there will always be inventive non-classical solutions available to solve this problem. Natural scientists will always find equally inventive logicians to create formalisms compliant with new practices, such as breaking consistency or requiring new principles of mathematical induction, as their theories develop to account for quantic superposition. Nonetheless, this matter is of particular concern when it comes to our examination of cognition since it could potentially lead to a situation where no capable adult possessing operational competence would be able to apply these principles of judgment in real-world scenarios, which heavily rely on stable institutions such as recursive-generable language-grammar and consistent codes of conduct (the Right). This creates an intriguing disconnection between practical and scientific life as if some individuals adhere to practical parameters while others, namely scientists, operate based on logical parameters of a higher level of complexity, developing distinct logics that align with their methodological needs. Kant's theory offers an explanation for how the increasing complexity of the content being evaluated, which cannot be confined to the mere principle of contradiction, finds its unity through a synthesis at a higher level. Consequently, Kant's theory does not alienate the human and pragmatic element of our cognition from the scientific element but rather elucidates them as different facets of the same transcendental reality. One can even describe the *Critique of Pure Reason* as an attempt to rescue the complex

[1] Abreviattion for *Critique of Pure Reason*: *KrV* Kritik der reinen Vernunft (1781; 1787). Cited by A/B pagination.

methodological procedures of post-Newtonian science and present them as part of our normal cognitive apparatus.

Kant's Theory of Mental Faculties: Synthesis and the Unity of Judgment

Kant proposed his own solution to Hume's problem through his theory of the unity of apperception and *a priori* syntheses. We shall shortly come to the point where the Transcendental Deduction sketches the outlines of a theory of mental faculties. In a particularly interesting moment for an informal outline of the elements of a theoretical understanding of our representative faculties, Kant gives an overview of the functions of perception, imagination, and apperception, according to how they are coordinated to form syntheses:

> Actual experience, which consists in the apprehension, association (the reproduction), and finally the recognition of the appearances, contains in the last and highest (of the merely elements of experience) concepts that make possible the formal unity of experience (A 125).

To put it succinctly, a theoretical judgment generates a synthesis that depicts its relationship to a potential experience that is thought of as a normative unity rather than just something projected by the imagination (or a syntactic structure). While Kant's investigation into the extent of the faculty of imagination serves as the basis for his theory, he goes beyond it in that he asserts the necessity of a conception of the synthetic unity of imaginatively produced content, which can only be accomplished by a further movement that is spontaneous and goes beyond the simple passive combination of the faculty of images. The author believed that the enunciation of verbal copula would itself be an expression of the representation of this unity and, moreover, that our awareness of the limits of the support of our mediated knowledge (inferences) can only be thought through this unity, which he called the synthetic unity of apperception.

Kant's solution to skepticism, which he sets forth in paragraph B 141 on Transcendental Deduction, is that objective cognition of the content of judgment is something other than mere subjective cognition of subjective probabilities. The perception of the disparity between valid and invalid consequences of p is characterized by a distinct organizational structure, unlike the perception of merely

linking similarities, figurative representations, and other purely inductive inferences related to p without an objective principle. The nature of the difference, however, does not consist in a greater or lesser fallibility of content. What marks the uniqueness of the certainty contained in the judgment is not the claim to infallibility, but the ability to present a rule that describes the unity of the connection between body and weight in the judgment "The body is heavy". Anyone who is able to understand the proposition that the body is heavy must be able to find a rule that is compatible with the rule used by those who judge or assert the proposition that the body is heavy.

> Only in this way does there arise from this relation a judgment, i.e., a relation that is objectively valid, and that is sufficiently distinguished from the relation of these same representations in which there would be only subjective validity, e.g., with accordance with laws of association (B143).

Rather than merely presenting opposing examples, disagreements over the conclusion that the body is heavy are about the underlying assumptions that support the held interpretation of the statement. This leads to the classic transcendental argument: our parameter for general understanding would break if "the body is heavy" could be understood in categorical conditions in which expressing it would be possible in any state, whether in conditions in which it is true or in the exact opposite ones.

Consequently, we are not left vulnerable to fall in the realm of anti-theory about our internal flux, i.e., in a dimension where we could not know what we know, or where we could be mistaken even about our minimal knowledge about things. Nor are we subjected to a mere chaotic representation or random association of experiential elements. The essence of Kant's project lies in affirming our ability to make judgments and, thus, attain a theoretical understanding of the consciousness that unifies our direct experiential knowledge.

Kant's strategies in the Deduction of Categories and the passage for a phenomenological approach

At the peak of his work on *Transcendental Deduction*, Kant promises to prove that the strategies we use to represent the intuitive application of concepts of high levels of generality *do have* objective validity. They are not merely subjective decisions or inductive approximations, but judgments whose content can be asserted, i.e.,

decided to be true, false, or, if not, to make at least a non-cancellable contribution to further knowledge on how to judge in the light of the presented information (how to "settle opinion" to speak as a true contemporary pragmatist). The challenge is a version of the problem popularized by Descartes, which can be summarized as *The Problem of Objective Purport*: How can we ensure that our mental states accurately reflect the external world? To answer this, Kant starts from a different orientation, which we can call the problem of the warrant of objective correctness: What is the nature of the rules we apply to ensure the objective content of our ideas?

It makes sense to look for possible answers that are consistent with the *Critique of Pure Reason* if we are to consider the Kantian argument in light of new challenges.

That answer lies within his more general strategy of proving that our ability to identify intuitions as knowledge depends on general rules that we call categories.

> I, therefore, call the explanation of the way in which concepts can relate to objects a priori their transcendental deduction of objects and distinguish this from the empirical deduction, which shows how a concept is acquired through experience (KrV A 86/ B 118).

However, this strategy cannot be successful without the additional assumption that the physiology of understatement is insufficient. According to Robert Brandom, in his famous commentary on Hegel:

> Judging that p is committing oneself to integrating p with what one is already committed to, synthesizing a new constellation of commitments that exhibits the rational unity characteristic of apperception (BRANDOM, 2019, p. 53).

Kant also uses a version of the distinction between scientific and non-scientific, calling for opposition between more solid and more fragile forms of representation; at this point, he leaves open whether both are possible, even if some are more misleading than others: "The empirical derivation, however, to which both of them [Locke and Hume] resorted, cannot be reconciled with the reality of the scientific cognition *a priori* that we possess" (A 95 / B 128).

Another strategic option, already included in the preliminary remarks of the text, is to address the issue of connections made by the mind and to evoke its ideal state in contrast to the purely passive state of the senses: "Receptivity can make cognitions possible only if combined with spontaneity" (A 99).

We cannot simply conduct a factual study of the physics of understanding, as Locke did (A 95/ B 127), and leave it at that. This part of Kant's work has the advantage of retaining the normative orientation that is so important to epistemology and constitutes the specific contribution that an epistemologist can make to a comprehensive discussion in the field of cognitive science, as opposed to the empirical psychologist's standard contribution. Each time there is an insistence on giving space to the epistemologist in this interdisciplinary field of study, that space is used with the aim of reminding us of this normative aspect.

Kant's theory does not undermine the central tenet of Humean skepticism, which posits that the process of transforming learning from examples or experiences into the ability to judge its truthfulness is made by an internal representation. However, Kant diverges by contending that this internality is not solely psychological; it also encompasses normativity within our internal experiences: "All synthetic cognition a priori is possible only by the fact that it expresses the formal conditions of a possible experience" (KrV A 638/B 666). This seed of an answer would mature into one of the most influential movements of the twentieth century: Husserl's phenomenology. But let's observe how the seed develops in its first stages. Kant's anti-psychologism establishes a non-skeptical epistemic theory, affirming our capacity to grasp theoretical representations of the unity between our mediated and immediate knowledge (both conceptual and intuitive). For him:

> […] the mind could not possibly think of the identity of itself in the manifoldness of its representations, and indeed this a priori, if it did not have before its eyes the identity of its action, which subjects all synthesis of apprehension (which is empirical) to a transcendental unity, and first makes possible their connection in accordance with a priori rules (KrV A 109).

Kant's solution in *Transcendental Deduction* was, however, obscured by the fact that it was buried in a series of heterogeneous strategies and a complicated corpus of texts that hardly had the maturity to understand itself as an independent science about the nature of judgment or necessary knowledge. It was not until decades later, with Husserl's phenomenology, that a rigorous and scientific investigation of the unifying structures of the manifold came to the fore. We will try to narrate how this transition happened. In terms that we can use to build a science on these *a priori* rules (a phenomenology), the apperceptive identity is thought according to an idealized

representation of the act of consciousness that represents this content as a non-empirical unit, for example, a propositional representation that something *is* like this – and not otherwise – according to a rule. The representation of the rule is nothing more than the representation that consciousness makes of itself as a state of determining the correspondence between concept and intuition in an act of unification of content. The relationship of cognition with objects is, in Kant's words:

> This relation, however, is nothing other than the necessary unity of consciousness, thus also of the synthesis of the manifold through a common function of the mind for combining it in one representation (KrV A 110).

Kant's theory is able to recover a sense of hope that our judgments involve a more normative theoretical unity than a mere association theory or a syntactic computation, but the history of philosophy proved his theory to be insufficient (we will challenge this consensus in the end). Frege (1950) is the next author who in his *Grundlagen* contributed to restoring the philosophical universe's excitement for the question of justification and representation of high-level theoretical concepts, refuting Kant's work on synthetic unity of mathematical concepts and presenting a thesis of non-trivial analyticity. We will not enter into this complicated discussion. But we will remember that the recent shift back to phenomenology and the problem of mental content – clashing with Frege's anti-psychologism – seems to give an advantage to Kant's theory of syntheses.

Kant against syntactic computationalists

Kant's argument can be restated by noting that inductive reasoning schemes and logical blind syntactical forms are not so different. They share at least one blind and merely associative form of the validity parameter for inferences. In truth, an inductive form of inference is underdetermined by the forms of reasoning to which it refers, which provide a mere frequency of valid arguments or a subjective principle of analogy between arguments that have succeeded to a certain point; rather than a single formal and unconditionally valid schematization. Similarly, the validity of a syntactic form is underdetermined by the range of formulas (or formal skeletons) that structurally confirm it, and even by the variety of logics (e.g., nonclassical interpretation

of connectives) that are structurally homogeneous with it, i.e., that can be specified by the same structure – they specify indistinguishable relations. Under these assumptions, then, we can say that syntactic forms are not purely logical forms, but mere argumentative empirical frequencies canonized in a linguistic skeleton. But we can also conclude even more: that logical forms are mere abstractions of understanding, which draw an artificial ceiling for the content of our cognitions. According to our reading, then, it is justified to say that Kant's criticism of general logic resembles his criticism of Hume, namely, the criticism that in both cases one does not pass from the subjective to the objective level. Mere consistent projections cannot claim to be objective: "Hume could not explain at all how it is possible for the understanding to think of concepts that in themselves are not combined in the understanding as still combined in the object" (A 95/B 127).

This is in line with Kant's view in section 19 of the Transcendental Deduction, where the author, disappointed with traditional logicians, states that to claim that the body is heavy is to use "is" in the status of a unifying rule, and not as a mere inductive association between instances of body and weight (nor as computational algorithm for predicting those instances).

This means that there is a way of looking at it in which the proposition "bodies are heavy" is a unitary statement that can be decoded by a single rule, i.e., by a rule that cannot be overridden by psychological or natural rules, but only by a rule that contradicts the first logically – like the rule that predicts that "bodies are not heavy". So the opposite of the assertion that (a) bodies are heavy is the assertion that (b) bodies are not heavy. This is quite different from the mere counter-assertion that there is a combination of notes and signs associated with bodies and weight that would not count bodies as heavy or would not mechanically calculate the connection between weight and body. Different conceptual schemes result from the acceptance of these different competencies in seeing (a) or (b) as true, and that competency need not be described by a different types of cognition.

Kant's theory is able to reclaim a sense of hope that our judgments entail a more normative theoretical coherence than a mere association theory or syntactic processing. So it addresses the question regarding the level of trustworthiness that experience adds to our judgments. The value of the experience can also have a *negative contribution*, in the sense that it is latent support or potential support for the

judgment (we will see in the next chapter how he needed transcendental logic to do so). It supports it in defensive conditions, not only in active conditions of asserting. It depends on the synthetic coding that represents the unity of the intuition and the concepts in setting the conditions for verification even for non-empirically verifiable propositions. This unity is the harmony between the mediating and the immediate part of the proof of the proposition – it states that the verification is not accidental, but it represents a contribution to truth.

Kant's normative empiricism: anchoring models in non-syntactical patterns

Kant has a theory that prevents the dead ends of empiricism. His position accords with the fact that positive extension of judgment is not the element that teaches our reason. He emphasizes that: "as far as the correctness and precision of the insight of the understanding is concerned, examples more usually do it some damage since they only seldom adequately fulfill the condition of rule" (KrV A 134/ B 174).

Mere positive classification cannot educate our cognitive faculties because it does not give us a norm for judging. If one was to answer the Hempel paradox (1965) using the Kantian rationale, he would say that the problem here is the poor logical performance of mere extensional logic and syntactic patterns to give a precept to judge synthetic transcendental content: "general logic can give no precepts to the power of judgment" (KrV A 135 / B 174). Indeed, the extensional coincidence between "non-black things are non-ravens" and "all ravens are black" is the result of a very poor and merely superficial synthetic unity of the intensional-conceptual content. Its foundation is the image alone, and Kant's temporal conception of the relationship between contents makes it inadequate. Specifically, schemes encode the temporal unity of representations' content because the structural similarities between two images are insufficient to support an *a priori* synthesis between the immediate (intuitive) and mediated (conceptual) parts of our knowledge. The syntax can encode that unity superficially and artificially, without any alignment with a conceptual basis – therefore, in Kant's words: blindly.

The foundation of our syntheses to construct a protective dimension of comprehending the "essential" (knowledge of the necessary properties of things) is the temporal dimension, which allows us to heuristically base our conclusions on our

current understanding without having to access the objects themselves. For Kant, it is the negative part of our conceptual strategies, the defensive elements of our conceptual armor, that give stability to identifying the cumulative content of the experience[2]. Those negative elements, and not supersensible intuitions, are those that are *a priori*. The apperceptive representation of the unity of our representations in self-awareness conceptualization (the *I think*) is nothing but our reflective representation of some required stability, an expression of the anchorage strategies used to retain intuitive ground in high-discursive or speculative Inquiry about matters of fact.

Therefore we avoid another of Hume's disastrous consequences, that which states that no rational expectation can be drawn from empirical states of affairs, and therefore no amount of experience is enough to ground the *intensional difference (or the modal difference)* between p or non-p. In order to ground that difference, however, we cannot rely on the "positive" or superficial traits of the representation. For Kant, we have to go beyond mere general logic:

> General logic abstracts from all content of the predicate, even if it is negative, and considers only whether it is attributed to the subject or opposed to it. Transcendental logic, however, also considers the value or content of the logical affirmation made in a judgment, by means of a merely negative predicate [like a property], and what sort of gain this yields for the whole of cognition (KrV A 72/B 97).

Kant employed his theory of Ideas not in the psychological sense (as Hume did) but as the negative Idealization of the defensive conditions in which the inference is valid. The representation of a property as a non-existential condition for something is an intensional condition to ground defeasible inferences. The inference that the sun will come up tomorrow is then totally valid inside the strategy of defense of arguments set by the properties that anchor the theoretical elements of a class of compatible scientific paradigms, namely, all those that predict that the sun has a high probability of rising tomorrow.

Kant is adding the condition that the intuitive contribution that sensible perceptions make to our judgments needs to be absorbed into our conceptual frameworks – our categories – so that we can not only know that a perception supports p, but that it would support it under all conditions in which not-p is false, independent

[2] The crucial point is that, in Kant's view, we are not able to convey the distinction between essence and existence through intellectual intuition, the way a celestial or angelic intelligence would.

of the state of information improvement. This permanence of the truth contribution in one rather than the other direction, since it is only negative-potential (a partial grounding model), cannot be found in the thing itself: it is set by the discursive strategy to anchor a pressure for warranting a judgment in the course of a conjectural Inquiry. We can conceptualize it similarly to how Bertrand Russell (1905) conceptualized the *de re* (wide-scope) representation of elements that don't exist, such as the actual French King. The contribution of this *de re* representation is still problematic once it is reduced to a quantified algebraic variable, but the assertion of that problematic proposition does not lead to ambiguity or vicious circles, since it is only a propositional function. We can therefore conclude that its contribution is negative. The negative anchor is not useful to discover objects but to ground the defense of our theoretical systems as we are engaged in an ongoing investigation.

This is particularly useful to represent our knowledge of how to judge that p (The King of France is bald). We have reached a point where we have learned not the ultimate and complete model of the truth or non-falsity of p, but only the partial model in which p would be true if the ideal circumstances occur (if the grounds to assert "that p" are present). This is what learning to judge looks like from the perspective of human-finite cognitive abilities.

Kant's answer in collaboration with Husserl: The essence of synthesis and *a priori* concepts of synthesis

Semantic fallibilism has posed a serious threat to intentional foundationalism in recent times. Many instances of the fallibility of our semantic certainties have been offered, ranging from neo-humean problems (Goodman's new problem of induction), Wittgenstein's paradox of rule-following (KRIPKE, 1982) to Kripke's example of *a posteriori* necessity (KRIPKE, 1980). These have attempted to allow for the conclusion that nothing keeps a better rule from superseding our present rules for truth assignment. What we presently regard as stable propositional content might not advance from a stage of provisional knowledge to one of definite knowledge. What we term a judgment would be nothing more than an occasional formula based on contingent and flawed norms if all we have are tools of correlation and association, syntactic or semantic (via models). In other words, if the rule for determining "that p"

can be reinterpreted by a broader rule compatible with not-p, this makes the very idea that one knows 'that p' philosophically contestable and unintelligible[3].

The theoretical or conscious representation of the entity that Kant called the apperceptive synthesis is indeed a unique phenomenon. We argue that this phenomenon is essential to perfect our understanding of Brentano's concept of mental intentionality. To understand how Brentano inspired a new class of questions, we quote the concise and precise excerpt from Barry Smith's text (*Husserl's Theory of Meaning and Reference*):

> It cannot be denied, however, that Brentano's ontology of mind inspired his students to develop a range of alternative accounts of how it is that acts and objects, including putative external objects, are embrangled together. The problem of intentionality to which Meinong, Husserl, Twardowski, [...] can be seen to have addressed themselves, a problem that is still very much alive today, may be formulated as follows: how are we to understand the directedness of our acts, their capacity to point beyond themselves to objects, given that (pre-theoretically considered, at least) not all our acts are veridical (that they are not all such as to have an object in the strict sense)? (SMITH, 1994, p. 166-167).

We can now see how Husserl's addition helps to piece together the puzzle of the opposition between Hume and Kant. It must be said that both Kant and Hume hold that the objective knowledge produced by science is underpinned by projective

[3] Two-dimensional theories occupy the central stage of the philosophical discussion on how to determine "content" in fallible conditions and they do so with incredible competence. In its pragmatic format, or Stalnakerian Two-Dimensionalism (1999), this theory asserts a rule for defining the conditions of interpretation of sentences as specific instructions for updating the basic presuppositions of a conversation, thus creating a dynamic way of adjusting to semantic fallibility through provisional contents. This content represents a second-dimensional meaning, considering the influence of context in establishing the parameters for content allocation (tracing sentence meaning based on functions from possible worlds to extensions). The attribution of mental content would resemble making anticipatory assumptions about others' beliefs utilizing a C*eteris Paribus* clause. But did Kant not have the tools, in his time, to respond to this type of fallibilism as well? To be honest, Kant did not have the tools of set theory, diagrammatic logic, category grammar at his time, and therefore could not bring his theory up to the technical level of modern semantics. But perhaps we can say that he anticipated the pre-technical basis of these tools by showing the philosophical basis of a semantics capable of *making explicit* the reference of complex conceptual distinctions, distinctions that make informational, epistemic content or doxastic content representable *a priori* in a synthetic judgment – the analog of second intensions, since they are though in the context of subjective experience. His syntheses theory offered an objective measure for (two dimensionally) differentiating representations that are externally identical (like mere analogies and images) but internally assignable to distinct contents (contributes differently to a judgment/assertion strategy). His goal was to develop a theory that would allow him to differentiate between the flow of internal representations and the objective content, giving them a meaning beyond simple correlations and coincidences. To put it another way, Kant teaches that no semantic fallibility could be so deep that would be able to fool us. We allways have the tools to stabilize what we know using some categorial ground.

parameters for the production of higher layers of intentional states of representations of the thought experiments – imagination, schemata, mathematical computation – that logically organizes the comparison between alternative beliefs about reality. Only Kant, however, defended an expression of these projection parameters that was compatible with an ideal view of their structure and subsequent knowledge to judge if the projection holds.

Although Hume and Kant were associated with non-realism, there are philosophical disagreements about the nature of the laws and intentionality involved in the conception of the ideal (or probabilistic) parameters for representing truth and the theoretical knowledge present when one knows a proposition to be true. Hume's deflationary concept of mind severely limits the ability to give a stable intentional account of objective reality and truth in important cases, e.g., cases that require notions of consistency, identity, and incompatibility of p and non-p that cannot be measured by mere mechanical tricks *to count* the cases where p and non-p are incompatible. One needs a stronger computational skill and therefore better mathematical knowledge to represent this incompatibility in what Husserl would call an ideal intuition. Those are cases that represent traces of our cognitive competence that go far beyond mere Humean deductivism. These robust notions of proof and consistency required stronger parameters for cognition, the kind of which would be representable by advances in structuralist mathematical theories. One could say that we cannot blame Hume for writing before those technical tools were available; be that as it may, we know that Kant fares better in this respect, even though his conception of synthesis was developed decades before mathematical theories made possible a systematic debate about structures, categories, and types. He develops the subject further than Hume by allowing non-Rachid mental combining powers in his theory of pure syntheses:

> […] pure synthesis, generally represented, yields the pure concept of understanding. By this synthesis, however, I understand it rests on a ground of synthetic unity a priori; thus our counting (as is especially noticeable in the case of larger numbers) is a synthesis in accordance with concepts since it takes place in accordance with a common ground of unity (e.g., the decad) (KrV A 78 / B 104).

By the time Husserl finally wrote, those methods had largely taken hold:

> No validation procedure […] – stands in isolation. None ties bits of knowledge, unless in its external mode of association, or in this together with the inner structure of the separate propositions, a definite type is brought out, a type which, if conceptually generalized, at once leads to a general law (HUSSERL, 2001, p. 20).

In response to psychologism and skepticism, it is crucial to consider deflationism while also recognizing the significance of apperception and intentionality. The subject itself holds the theoretical framework necessary to describe these concepts, rather than relying on cumbersome notions like things in themselves. However, it is important to note that deflationism has its limitations. We must not reduce the human mind to mere computation and disregard its intricate nature. The traditional emphasis on narrow methods of certainty, such as deduction and observation, has evolved through the contributions of Kant and Husserl. They have delved into the ideal structure of intentional projection, enabling a comprehensive understanding of representative activity beyond simple logical calculations based solely on observation and consistency. This broader perspective allows for a human cognitive capacity that aligns with the requirements of empirical science and mathematics.

Conclusion

We examined Kant's theory of syntheses, which presents a standard framework for critiquing the empiriscist-humean model of mind. Kant's primary aim in opposing Hume was to restore the significance of scientific foundationalism, as its integrity would be compromised if we lacked the means to assess the legitimacy of modal and counterfactual representations (those that make assumptions about the necessary nature of the empirical world). However, in order to accomplish this, he had to revise the empiricist theory regarding our cognitive potential to such an extent that the concept of mind no longer aligned with our conventional understanding of simple operational abilities. Due to the lack of access to the extensive reflections on semantics and the non-classical resources available in the twentieth century, which could represent deviations from fundamental logical laws (such as non-contradiction and the law of excluded middle), the author needed an alternative approach to depicting the intricacy of cognitive processes. Thus, he formulated a theory of syntheses, emphasizing the contribution of structural modules of cognition in schematizing the

relationship between concepts and intuitions in situations where direct verification is not possible and truth conditions cannot be truth-functionally represented. As previously mentioned, his objective was to establish the legitimacy of the natural sciences, which appeared to fall short in comparison to metaphysics (despite offering numerous other advantages). According to Kant, if theoretical physics (and mathematics) are indeed feasible, these representations cannot be merely problematic; there must exist an *a priori* method of representing the synthesis of their unity in order to manifest that problematic content in intuition. However, in the process, he also developed a theory of mind that can still serve as a response to versions of naturalized or simplified intentionality proposed by a theory of computation. Furthermore, we have observed how Husserl's phenomenology continues to present itself as one of the most coherent options for analyzing mental content that remains impervious to externalist skepticism.

A final word can be said about the reasons why Kant's philosophy, especially his theory of the synthetic unity of apperception, is not completely favorable to empirical psychology. Kant's theory of categories and synthesis advanced a theory of *mental content* that can easily be deemed excessively intricate to be acknowledged as a comprehensive portrayal of the mind. This was primarily due to its amalgamation of intentionality and the capacity to encode information with a higher-order representation known as apperception. Apperception possesses the ability to acquire not only rudimentary perceptual and verifiable conscious knowledge but also intricate self-conscious synthetic knowledge akin to that found in ancient metaphysics, as well as the structural empirical representations present in Theoretical Physics and mathematics. This seems more intricate than can be established in a psychology laboratory. One could even say that some of the mind competencies required by Kant's theory could only be acquired socially or by pragmatic involvement in a Sellarsian "space of reasons" (1997). Upon initial examination, empirical psychologists would find themselves overwhelmed by the complexity of this theory, as they realize that discussing it necessitates an inseparable consideration of the mental structure, the epistemological structure of scientific proof methods, and the conceptual structure of our semantic and presupposition frameworks. Consequently, Kant's thesis would encounter resistance within psychology departments, as it positions psychology in its

challenging place as a domain for transcendental and phenomenological reflection, as well as a doctrine of science.

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