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Paul Natorp's reformulation of the Kantian distinction between intuition and concept

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Chapter 5. The Reformulation of the Kantian Distinction between Intuitions and Concepts

5.1 The Reformulation of the Notion of Intuition

As we explained in Chapter 3, the act of thinking consists in determining. The process of knowledge seeks to give a value to every variable in such a way as to reduce the scope of possibilities to a single possibility. The determination indicates what value corresponds to a certain variable. Determination fixes the value of a variable. The act of determination consists in claiming that the variable x corresponds to the value a . The complete determination takes place in the assignment of a value to all the variables. The reality is the determination, and the determination is reached when nothing is indeterminate.⁴²⁷ The variable could be determined in many ways. Assigning it a value establishes that the variable is determined in one way and not another. Among the many ways in which the variable could be determined, a single value is selected. With this, it is argued that of the multiple ways in which the experience could occur, it occurs in this way and not in another. The successive performance in this determination aims to determine the experience in a unique way in its entirety.

As we observed, the introduction of a hypothesis raises the possibility of a certain determination. It is proposed that a certain value can be attributed to a variable. Reality affirms that this value is a fact, and the third level confirms it as necessary. The goal will be total determination so that nothing is indeterminate. However, the third level is always relative since it can become a starting point for new hypotheses, and thus for a new beginning of the process. The requirement remains conditional as, as we have seen, the establishment of a necessity can again open a universe of new hypotheses. Complete determination is not fully satisfied in any of the three stages of the modality. Reality does not satisfy the demand for complete determination because it is itself the infinite process of relative assignments of values to variables that is always open. Then, the need for a further element that satisfies this requirement could be raised. Natorp introduces the question of whether the requirement of complete determination does not require an additional instance. The question that arises is whether it is not a problem that the complete determination is never absolutely satisfied. Complete determination means that what is determined in a unique way, that it is so and not some other way. What may be

⁴²⁷ „Wirklichkeit bedeutet eine Bestimmtheit, so daß nichts unbestimmt bleibt. Unbestimmtheit ist eben bloße Möglichkeit.“ Natorp, P., LGEW, p. 92.

otherwise is somehow undetermined. The possibility of being otherwise means that some of its variables have not been assigned any value. The requirement of a complete determination means that one aims to determine what in the possibility was indeterminate. In this case, the assignment of a value is not justified by any given intuition but by the possibility of its interconnection in a coherent system through the inductive-deductive process explained in the level of the modality. The guarantee of truth is given in the compatibility of the set of judgments with another set of judgments. There is no need for any extra-logical instance, as the intuitive representation. The process starts from an initial estimation (*Ansatz*). One claims that a certain variable has a certain value. If when testing it, one verifies that assuming those values the set of our beliefs becomes incoherent, then that assignment of the variable should be rejected. The estimation is abandoned because it cannot be coherently incorporated into my set of beliefs. The rejection in the assignment of a value to a variable is carried out by means of the criterion of coherence. There is nothing external with which the estimation of thinking can be legitimized. There is no instance in which thought can check the estimation with that outside itself, such as an intuitive representation. The experiment, as we have seen, only allows us to show whether what is determined in this way can be introduced into a coherent system. For Kant, the concepts are insufficient to determine the object in a unique way. The complete determination of the object requires intuition⁴²⁸. At a specific stage, the entire universe of variables related to this stage of knowledge can be determined. Complete determination is always proposed as a task. The determination is hypothetically adopted and then accepted if it satisfies the condition of a fully coherent interconnection. However, that satisfaction can never be ultimately verified because the facts that we claim that exist are always relative. The search for determinacy demands the concept of complete determination as a regulative idea. The demand posed by possibility is never satisfied. This does not eliminate the demand as such. On the contrary, the requirement is justified as an idea to which the process tends. The requirement is justified as a goal to which the process aims. This is the positive meaning of the concept of intuition. Complete determination is thus required by all determinacy. Determinity as the assignment of values to all variables necessarily requires complete determination. Progressive determination assumes complete determination as its purpose. Partial determination always has complete determination as its goal. The complete determination

⁴²⁸ The complete determination is not going to be given in actual experience but is a regulative idea, as a postulate of reason. Natorp. P., KMS, p.204.

is a condition of all determination insofar as it guides the process of each partial determination. Natorp maintains that the essential impossibility of accomplishment of this requirement does not mean that this requirement is less well founded. The complete determination remains as a task. Natorp maintains that the legitimacy of the requirement is sustained even when its fulfillment is essentially unachievable⁴²⁹. The conception of a progressive determination is not opposed to the requirement of a determination in a unique way. Kant needs to incorporate the intuitive element because he has to satisfy the requirement that remains unachievable for our understanding. Kant introduces intuition as a factor that achieves the demand placed by thought. The problem consists in the misunderstanding that this requirement itself is essentially unattainable. For Kant, complete determination is achieved by reference to intuition. As we will analyze in the next section, the problem is grounded on the definition of the notion of concept. The Kantian notion of the concept leads to the conclusion that complete determination is never achieved by concepts. According to Kant, complete determination is only achieved by intuition. For Natorp, on the contrary, intuition will be this always distant goal, not the first given data. The Kantian concept of intuition is the always distant goal and not something given.

As we introduce in Chapter 1, space and time are for Kant forms of intuition. The complete determination of the object demands the introduction of a factor external to thought. The determinations of thinking are insufficient to provide a full analysis of the object because although its notes can be analyzed in exclusively conceptual terms, certain determinations still remain to be established. Its location at a certain moment and at a certain time demand the introduction of intuition as an external element to thought. For Kant, the determination of a unique way can never be conceptual, it requires the individualization of space and time and that is never achieved by means of concepts.⁴³⁰

From Natorp's point of view, as we have seen, spatio-temporal determinations are also determinations of thought that correspond to the laws of relation. In the category of

⁴²⁹ In both Kant and Natorp there is a regulative use of the requirement of complete determination. Natorp agrees with Kant that complete determination is a regulative idea. However, in Natorp the typically Kantian distinction between the regulative and the constitutive does not hold. For Natorp, the requirement is part of the constitution of objectivity. The requirement of complete determination and the determination itself are on the same level, even when Natorp accepts that the levels of the modality do not constitute the object but rather determine its link with knowledge. Only in this sense is the requirement regulatory and not constitutive.

⁴³⁰ „Anschauung heißt ihm „die Vorstellung, die nur durch einen einzigen Gegenstand gegeben werden kann. Zeit und Raum sind in solchem Sinne „wesentlich einige“ Vorstellungen, darum Anschauungen; es gibt nur eine Zeit, nur einen Raum, so wie es nur eine Erfahrung gibt, „in welcher alle Wahrnehmungen als in durchgängigem und gesetzmäßigem Zusammenhange vorgestellt werden.“ Natorp, P., LGEW, p.92.

relation, thought seeks to bring together a plurality of quantitative-qualitative syntheses. This task is performed in the establishment of a second-order synthesis, as a synthesis of the synthesis. Thought thus generates a system of series. Space and time will be the indexing parameters that allow the establishment of this order, allowing each term of one of the series ($x_1 x_2 x_3 \dots$) to be ordered in relation to another series system ($y_1 y_2 y_3 \dots$). Space and time are not principles of determination independent of the synthetic unity laws, but rather they are incorporated in the orientation of the relationship, in the task of thought to provide a unity between syntheses, in the synthesis of synthesis. For Natorp, also complete determination is never reached but can only be sought by means of mere concepts.

As we studied in Chapter 1, from the Kantian perspective, data given to intuition is the beginning of the investigation. The *big bang* of experience, as Mario Caimi calls it, begins with something given to intuition whose origin is extrinsic to thought. This given matter is passively received in the intuition. For Natorp, on the contrary, intuition is not a first given factor, but the result sought by the determination process. The fully determined datum is a task. However, it must be recognized that this process is an infinite path of progressive determinations. Reality is thought as determined but in a provisional way because, as we exhibited in Chapter 4, it can always be subjected to further analysis. The complete determination sought will be fully achieved in the complete ordering of the series of changes. However, this is a demand that is never fulfilled. The requirement of a univocal order that allows the full identification of the phenomenon makes full sense only as a requirement. Knowledge is not capable of fully satisfying this requirement, but always only conditionally. The results achieved, that which is provisionally considered as a proven fact, can then be submitted for review. As we studied in Chapter 4, being given to intuition is a moment of modality. This is the consummation of idealism in the recognition that data can never give a definitive answer to the question but, on the contrary, always opens up new questions for investigation. There is no definitive or absolute proof of experience because the path of investigation is infinite. Kant's problem is that he is not satisfied with the demand, but he seeks to satisfy it. Unable to satisfy this requirement by means of concepts, Kant introduces the intuition. A consistent idealist accepts the requirement as such. What is illusory is the claim to satisfy the demand. This is the illusion of naive realism. In this sense, what is truly speculative is the ultimate datum as illegitimately introduced. The illusion consists in the belief that this demand could be satisfied. In this way, Natorp explains not only what must be considered as the

effectively real, but also the reason for the Kantian error. There is nothing given as the ultimate datum.

For Kant, the singularity is given in intuition. The relations of thought will be insufficient to determine the object in the individuality. For Natorp, the establishment of the singularity of the object is a contribution of thought that puts the search for unequivocal identification as an object. The singularity in Kant is a given singularity while the singularity in Natorp is a constructed singularity. Natorp accepts the need for an intuitive moment as a demand. Kant, who bases his error on the assumptions of naive realism, transforms the demand into an accomplishment of the demand. The mere requirement is transformed into the accomplishment of it. For Natorp, intuition will not verify existence. Intuition, in the critical system, is the ultimate guarantee of the confirmation of experience. For Natorp, on the contrary, what is given to intuition cannot operate as a criterion of existence. The search for determination of the indeterminate is the right path. The error consists in the conviction that this determination of what seems indeterminate can be achieved through an intuition. On the contrary, as we pointed out, this notion of intuition must be reinterpreted from an idealistic perspective, according to the Copernican turn. Possibility demands a determination that is satisfied with actual reality and fully consummated with necessity. Effective reality demands the determination of the indeterminate. However, the reality check is always provisional. The determinations provided by intuition are always themselves a conceptual element, since perception answers the question posed by a concept. There is no dismissal of the concept of intuition but a reformulation of its function. The fact is not a datum of intuition but, rather, the intuitive factor is a response to a construction of thought. Regarding its content, perception also consists of conceptual determinations. The content of perception is found dissolved in the process of determination according to the different orientations of thought that construct objectivity, i.e., according to the laws of quantity, quality and relationship, which are always conceptual determinations that derive from the synthetic unity.

This is the consummation of idealism. A consistent idealism is realized by stating that the absolute fact is never achieved, and that the satisfaction of this requirement is not required either. Indeed, a total legal construction is a goal that must be achieved. The complete determination is a task. The consummation of idealism consists in this conception, in this establishment of the fact given to intuition as a task, as the ultimate determination to which thought aspires but never reaches. The ultimate legal order is the always distant goal for an imperfect thought. Kant's mistake was to transform the demand

into a satisfaction instead of leaving the demand as such. Trying to satisfy this requirement, Kant introduced the distinction between intuitions and concepts. The consummation of idealism consists in this recognition. The first step in the consummation of idealism is the recognition of this new approach to the problem of intuition. The second step consists in the reformulation of the notion of concept.

5.2. The Reformulation of the Notion of Concept

In the *Transcendental Aesthetic*, Kant presents the distinction between intuition and concept. Intuitions and concepts are two ways in which thinking can refer to objects. Intuition is a form of representation in which the object is given immediately. Intuitions have their origin in sensibility and concepts in the understanding. Man is not capable of intellectual intuition, since humans only know through concepts. Human beings know the object through its marks. Concepts are mediated representations of objects. The human intellect can only know the object through its common marks. The understanding refers to the object indirectly, by way of the common marks of the object. Concepts are representations that have their origin in the understanding. Since they refer to the object by their marks, the concepts are mediated representations of the object. In conceptual representations, the parts always precede the whole. The entire representation is constituted from the synthesis of the component parts. The concept is a representation that contains the notes of the object that operate as characteristics common to many things. The notes of the objects are predicable of multiple objects. For this reason, “...every concept must be thought of as a representation which is contained in an infinite number of different possible representations (as their common marks), and that therefore contains them under itself.”⁴³¹ In the process of the concept formation, the parts precede the whole. This is the premise that Kant uses to argue in *Transcendental Aesthetic* that space and time are intuitions. Kant argues that in the representation of time and space the parts cannot precede the whole; therefore, they are intuitive and not conceptual representations; since conceptual representations are precisely those in which the whole

⁴³¹ „Nun muss man zwar einen jeden Begriff als eine Vorstellung denken, die in einer unendlichen Menge von verschiedenen möglichen Vorstellungen (als ihr gemeinschaftliches Merkmal) enthalten ist, mithin diese unter sich enthält; aber kein Begriff, als ein solcher, kann so gedacht werden, als ob er eine unendliche Menge von Vorstellungen in sich enthielte“ (*KrV*, B39).

is formed from the parts. Kant uses the definition of the concept as a representation by common marks to argue that space is not a conceptual representation but an intuitive one. The argument is introduced as a disjunctive syllogism. Our representations are either intuitive or conceptual. In intuitive representations, the whole precedes the part, in conceptual representations the part precedes the whole. In our representations of space and time, the whole precedes the part. Therefore, the representations of space and time are intuitive and not conceptual. Kant's argument is based on a disjunctive syllogism that assumes as valid the definition of his intuitive and conceptual representation.

It can be seen, the enormous importance of the definition of intuitive and conceptual representation, because the argument that Kant employs in the *Transcendental Aesthetic*, assumes that we accept this distinction. Conceptual representations are those that are obtained in a mediate way, by reference to intuition. The representation is obtained from common marks of the objects given to the intuition. These definitions that Kant introduces at the beginning of the *Critique of Pure Reason* are explained in the *Dialectic*. Kant explains that the general representation is perception. Perception is a sensation with consciousness. The concept is the form of perception that is obtained by means of common marks of the objects. Kant presents the classification this way:

Bewußtsein (*perceptio*). Eine Perception, die sich lediglich auf das Subject als die Modification seines Zustandes bezieht, ist Empfindung (*sensatio*), eine objective Perception ist Erkenntniß (*cognitio*). Diese ist entweder Anschauung oder Begriff (*intuitus vel conceptus*). Jene bezieht sich unmittelbar auf den Gegenstand und ist einzeln, dieser mittelbar, vermittelt eines Merkmals, was mehreren Dingen gemein sein kann. (A320/ B 377)

The concept is a representation by common marks. This definition of the concept as representation by common marks follows that definition that Kant used in his *Lectures on Logic*. In the *Jäsche Logik*, we find a definition very similar to the one that Kant provides in the *Introduction to Aesthetics and Dialectics*:

Alle Erkenntnisse, das heißt: Alle mit Bewusstsein auf ein Objekt bezogene Vorstellungen sind entweder Anschauungen oder Begriffe- die Anschauung ist die einzellne Vorstellung (repraesentatio singularis), der Begriff eine allgemeine

(repraesentatio discursiva) oder reflektierte Vorstellung“ (*Logik*,
AA: XXIV p.98)

Discursive or conceptual representation is a representation by common marks. As it is a representation by common marks, this representation is universal. The universal representation contains multiple parts, whose multiplicity is prior to the unity that contains it. For this reason, the concept contains a multiplicity under it. The multiple elements contained in the concept are different from each other. Thus, for example, the predicate red can correspond to multiple objects that differ from each other. The concept contains a multiplicity of possible representations, insofar as those possible multiple representations that the concept includes differ from each other⁴³². Thus, in the conceptual representation, the parts precede the whole. The whole is the unity formed from the parts. That totality is always an indeterminate universal that can always contain multiple representations under it. The concept is a universal representation because it is a representation that is generated from what is common to all the objects that fall under it. Kant holds:

Da nur einzelne Dinge oder Individuen durchgängig bestimmt sind, so kann es auch nur durchgängig bestimmte Erkenntnisse als Anschauungen, nicht aber als Begriffe, geben; in Ansehung der Letzteren kann die logische Bestimmung nie als vollendet angesehen werden.⁴³³

The conceptual representation is obtained by abstracting what is common in many objects. If a certain representation is not a common representation, it is not a concept. Therefore, the complete knowledge of the object can only be given by the singular object, because “only singular things or individuals are completely determined”. Therefore, the possibility of complete determination is only possible as an intuitive representation; that is, “there can only be fully determined knowledge as intuitions (not as concepts).” Thus,

⁴³² „Ein jeder Begriff enthält ein Mannigfaltiges unter sich, insofern es übereinstimmt, aber auch, insofern es verschieden ist. - Die Bestimmung eines Begriffs in Ansehung alles Möglichen, was unter ihm enthalten ist, sofern es einander entgegengesetzt, d.i. von einander unterschieden ist, heißt die logische Einteilung des Begriffs.“ *Logik*, AA: XXIV p.98.

⁴³³ *Logik*, AA: XXIV p.108.

with regard to intuitions, the logical determination can be complete, but “regarding concepts, the logical determination can never be considered as achieved.”⁴³⁴

Thus, Kant defines the concept as a form of representation by common marks that are abstracted from other the given representations. However, this definition is insufficient. Kant defines a priori concepts as rules, functions. The definition of the concept that Kant uses is insufficient to characterize the function of the concepts of the understanding. Kant uses this concept definition to characterize concepts in general.

Kant maintains that understanding is a source of concepts. As is well known, this is the result of Transcendental Logic. Understanding is the source of concepts, and those concepts are rules of unification of the multiple of intuition. The concept is the function of the understanding to provide unity to the multiplicity. The concept is this gathering form of the multiplicity of intuition. This form of reunion is produced by the understanding itself. The concepts “spring, pure and unmixed, out of the understanding which is an absolute unity, and therefore must be connected with each other according to a concept or idea.” (A67-B 92). The concept is a function of the unity of the representations. The concept is a function of pure thinking to give unity to the various representations. In this sense, the concept is a rule. This rule is the function that determines the specific way in which multiplicity is unified. Since the understanding is

⁴³⁴ *Logik*, AA: XXIV, p. 108. These expressions of Jäsche Logic are also found in other Logic lessons. Thus, we find:

In the *Logik* Phillipi (early 1770s):

„Ein Begriff ist eine allgemeine Vorstellung; Vorstellungen die nicht allgemein sind, sind keine Begriffe.“ AA: XXIV, p. 451

Logik Wiener (around 1780):

„Conceptus communis kann ich nicht sagen, weil es eine tautologie seyn würde (...) Denn wenn eine Vorstellung nicht repraesentatio communis ist: so ist sie gar kein Begriff“ AA: XXIV, p. 908.

„Kein Begriff wird also ohne Vergleichung, ohne Wahrnehmung einer Einstimmung und ohne abstraction. Könnte ich nicht abstrahiren: so würde ich keinen Begriff haben,...“ AA: XXIV, p. 909.

„Ein Begriff ist also eine Vorstellung die vielen Dingen gemein ist.“ AA: XXIV, p. 905.

Logik Dohna (early 1790s):

„conceptus, enthält das, was mehrern Gegenständen gemein ist, nota communis.“ AA: XXIV, p. 752. Also: “Zum Gebrauche eines Begriffs wird Absonderung erfordert, aber dadurch wird der Begriff noch nicht gemacht. Letzteres geschieht 1. dadurch, daß etwas als Teilvorstellung betrachtet wird, die mehrern gemein sein kann, z.B. die rote Farbe. 2. wenn ich die Teilvorstellung als nota, als Erkenntnisgrund einer Sache betrachte, z.B. durch rot Blut, Rose usw. erkenne. Die 3te Handlung ist die Abstraktion, diese Teilvorstellung als Erkenntnisgrund, insofern ich von allen übrigen Teilvorstellungen absehe. Der Begriff ist also eine Teilvorstellung, sofern ich von allen übrigen dabei abstrahiere.”

Logik Pöhlitz:

„repraesentatio ist das erste und allgemeinste und kann nicht erklärt werden,“ (...) „Erkenntniß ist entweder intuitus oder conceptus; intuitus, wenn ich nur einzelne Vorstellungen habe, conceptus wenn ich Vorstellungen hab, die vielen gemein sind, oder repraesentatio communis. Conceptus est repraesentatio communis weil der Begriff aufs Merkmal des Gegenstandes geht und also den Gegenstand mediate durchs Merkmal vorstellt und dies Merkmal kann vielen Dingen gemein seyn.“ AA: XXIV, p. 565.

the faculty of concepts, it is therefore also “the law of the synthetic unity of all phenomena” (A 128). Understanding is a source of concepts. For this reason, Kant affirmed at the beginning of *Transcendental Aesthetic* that concepts arise from the understanding, while intuitions rest on affections. While intuitions are grounded on affections, concepts are grounded in functions⁴³⁵. The concept must be understood as a rule, as a function. However, the Kantian definition of the concept as an abstraction of common marks does not seem to be a plausible expression of this function of the concept. Kant claimed that the concept is a representation by common marks that are abstracted from the representation. This corresponds to the way in which empirical concepts are formed but it is not a plausible definition to explain the operation of pure concepts of the understanding. The pure concept is productive, but the abstraction does not produce anything.⁴³⁶ Therefore, abstraction is a negative concept⁴³⁷. Kant seems to use the empirical concept formation model to explain concept formation theory in general. The problem is that, as Kant himself marks “the use of the pure concepts of the understanding would be completely altered, if one tried to treat them only as empirical products.” (A 92)⁴³⁸. Then, a notion of concept is required that explains the function of the concept as a function.

Natorp claims that it was Leibniz who first understood the theory of concepts as functions. In his 1881 conference, “Leibniz and Materialism”, published by Helmut

⁴³⁵ A 68 – B 93.

⁴³⁶ „Durch Abstrahieren wird nicht nur nichts hervorgebracht, sondern vielmehr weggelassen“ AA: XXIV, p. 754.

⁴³⁷ „[Abstrahieren ist im philosophischen Sinne ein negativer Begriff – nicht attendieren (in der Chemie positio).“ AA: XXIV, p. 754. As Luciana Martinez explains: “El carácter general de las representaciones conceptuales se obtiene por medio de la abstracción. La abstracción se encuentra en el origen de la forma general de los conceptos, y no en el origen de su contenido. Ella no genera representaciones”. Martínez, L., 2019, p.690.

⁴³⁸ In this line, Kemp Smith affirms that in the *Transcendental Aesthetics* Kant does not show that space and time are not concepts but that they are not empirical concepts. The only conclusion that can be drawn from this argument is that space and time are not generic class concepts. It is not shown that space and time belong to receptivity and not to spontaneity. Space and time have not been proven to be different from the categories. He holds: “Conception is always the representation of a class or genus.” (...) Owing, however, to the narrowness of the field assigned to conception, the realm occupied by intuition is proportionately wide, and the conclusion is not as definite and as important as might at first sight appear. By itself, it amounts merely to the statement, which no one needs to challenge, that space is not a generic class concept., Kemp Smith, N, 1918, p.107. As Longuenesse explains, pure concepts (and also mathematical ones) follow the model of the generic concept. Longuenesse states: empirical concepts and a priori concepts (categories and mathematical concepts) “All equally are, however, *made as to their form*. Now, the only operations of the understanding to which Kant refers when he explains how the form of concepts is “made” are the three considered earlier: comparison, reflection, and abstraction:” Longuenesse, B., 1993, p.120. George Schrader considers that “there is nothing in common between *a priori* concepts and empirical concepts save the name.” Schrader, G., 1958, p. 264.

Holzhey in 1985, Natorp argues that it is necessary to redefine the notion of concept⁴³⁹. He introduces this idea within the, by then traditional, debate between materialism and idealism. Natorp's central thesis is that a mechanistic position is not necessarily materialistic. Mechanicism does not lead to materialism.⁴⁴⁰ Natorp argues that the mechanical conception of nature was one of the great achievements of early modernity. In the seventeenth century, it emerged as a widely accepted idea that nature as a whole behaves mechanically. That is to say, that "the totality of nature in all its phenomena and connections does not represent more than a perfect mechanism."⁴⁴¹ Mechanical laws control everything. It is accepted that "the simplest forms and laws of events, as taught by mechanics, control and unite the totality of the inexhaustible variety of natural things."⁴⁴² However, along with this idea, there was the belief that the mechanical conception of nature was associated with the materialistic conception. The early modern conception held that the endorsement of mechanism led directly to an acceptance of materialism. According to Natorp, before Leibniz, materialism and mechanism were considered to have a close and unavoidable connection⁴⁴³.

For Natorp, one of the achievements of Leibniz's proposal is to show that there is no direct relationship between mechanicism and materialism. On the contrary, the mechanistic conception leads to idealism, and consequently, to the need to introduce an idealistic conception of the notion of concept. Leibniz rejects materialism but accepts mechanism. And with this, he objects that materialism is an inevitable consequence of

⁴³⁹ Edgar Scott shows the importance that Cohen's approach to Leibniz had. He maintains that "...in Leibniz's arguments against Descartes' view that matter's essence is extension, Cohen would have found a problem with his own account of knowledge, a problem that was potentially devastating by his own lights. Leibniz's arguments revealed to Cohen that reality must be conceived by appeal to non-extensive magnitudes, in addition to extensive magnitudes. But then, the Anticipations would appear as the chapter of the first *Critique* that provides an account of just those non-extensive magnitudes." Edgard also explains the influence that Natorp has on Cohen's reading. He also exhibits the differences of their approaches to the issue. Edgar, S., 2021, p. 203.

⁴⁴⁰ Cf. Holzhey, H., 2011, esp. p.7

⁴⁴¹ „die gesammte Natur in allen ihren Erscheinungen und Zusammenhängen nichts als einen vollkommenen Mechanismus / darstelle. So waren in wenigen Jahrzehnten die Anschauungen des ganzen Mittelalters gestürzt und der Sieg der modernen Weltauffassung entschieden.“ LM, p.5

⁴⁴² „es wird begreiflicher, wie gewisse einfachste Formen und Gesetze des Geschehens, wie sie die Mechanik lehrt, die ganze für uns unerschöpfliche Mannigfaltigkeit der Naturdinge beherrschen und zusammenknüpfen.“ Natorp. P., LM, p. 6.

⁴⁴³ „Es ist bekannt, dass der Materialismus keine Erscheinung der neusten Zeit, vielmehr fast so alt ist wie die wissenschaftliche Erforschung der Natur. Wann und wo immer man versucht hat, die Zusammenhänge der Erscheinungen auf mechanischem Wege zu erklären, ergab sich der Materialismus als scheinbare Konsequenz. So zu Leibniz' Zeit.“ Natorp. P., LM, p. 5.

mechanicism. From his early writings, Leibniz rejects materialism but he endorses a mechanistic conception of nature⁴⁴⁴.

Natorp introduces two arguments: 1) based on the problem of the relationship between sensation and thought (materialism would be incapable of explaining this relation) 2) The need to think about unity in matter. Materialism cannot give a mechanical account of the unity of phenomena. For our purposes, we will focus on the second issue.

Natorp's argument begins by showing the insufficiency of materialism to mechanically explain nature. The mechanistic conception, Natorp will argue, leads to idealism. Natorp defines mechanism as that conception according to which everything in nature is connected by mechanical laws. There is no spontaneous causation. He defines materialism as the conception that holds that the entire universe is composed of material entities. For materialism, matter is the ultimate substance of the real. What is real is matter and, consequently, the first object of senses: *phaenomena*.

For Natorp, the first problem of materialism is the need to introduce a principle of unity in phenomena. Leibniz shows that matter by itself cannot be a source of unity that phenomena themselves require. Mere matter cannot be the principle of determination. It is necessary to introduce an active principle to think of nature. Natural events can be explained by the legality that governs them, but it does not happen the other way round. The legality of the events cannot be explained by the materiality that constitutes them. Natorp points out:

Zugegeben, dass aus Grosse, Figur und Bewegung der Körper alle besondern Erscheinungen der Natur erklärbar seien, so lässt sich doch schon irgendwelche bestimmte Grosse und Figur aus der Materie als blosser Ausdehnung nicht ableiten : die Ausdehnung in sich betrachtet entbehrt jeglicher Determination; und ferner folgt aus ihrem Begriff zwar Beweglichkeit, aber nicht wirkliche Bewegung; es muss daher schon ein actives, immaterielles Princip eingeführt werden, damit selbst ein bloss mechanisches Geschehen nur irgend verständlich werde.⁴⁴⁵

⁴⁴⁴ „Der „Mechanismus“ behielt den Sieg; und Leibniz hat sich sein ganzes Leben hindurch mit ganzer Unterschiedenheit und selbst mit Begeisterung zu ihm bekannt, während er die materialistischen Folgerungen nicht minder entschieden, und ebenfalls schon früh, zurückwies. [...] Seine Anerkennung der modernen, mechanistischen Naturauffassung ist in der That aufrichtig und rückhaltlos;“ Natorp. P., LM, p.5.

⁴⁴⁵ Natorp, P., LM, p. 9.

The mere extension has no determination, and its determination cannot be the matter, since matter, as a mere extension, lacks determination in itself. Matter has no determination by itself. It cannot have an internal principle of order. For the mechanical explanation to take place it is necessary to introduce a non-material active principle. Mechanism leads beyond materialism by exhibiting this necessity. The mechanical explanation of nature demands an ideal principle of unity. To explain nature, it is necessary to introduce an active principle, mechanic but not material. Leibniz shows the need to introduce an immaterial principle for the understanding of mechanical phenomena. In this way, for Natorp, it would be clear that the mechanical conception is anti-materialist because it can be seen that matter is not the ultimate substance of the universe since matter does not have unity by itself but, at the same time, it cannot be a source of unity. Materialism relies on the notion of *phenomena* but the *phenomena* themselves demand a unity that matter cannot provide. The matter has no unity by itself but, at the same time, it cannot be a source of unity⁴⁴⁶.

For Natorp, Leibniz shows that matter by itself cannot be a source of unity. The introduction of a unity -and the peculiarity of the type of unity introduced- requires a non-material principle. This non-material principle of matter, which determines what matter is, is force. The concept of force shows the connection between the mechanistic conception and idealism, since it is this metaphysical concept that allows us to explain the behavior of matter itself. For this reason, “the concept of force makes the transition from mechanical to metaphysical conception”⁴⁴⁷. That is, the matter cannot be a principle of action. It does not behold any principle to act. Then, there cannot be an identical subject of action unless one admits a formal principle. This formal principle is the force, which generates both: the movement and the unity of what is moving. The phenomena require forces, but forces lead to the concept of law. This was Leibniz’s innovation. Leibniz saw that concepts are modes of establishing relationships and not representations abstracted from things.

⁴⁴⁶ As Scott Edgar explains, according to Natorp, “Leibniz’s arguments assume a connection between the concept of reality and the concept of a genuine unity or genuine individual. On this assumption, conceiving of the real requires conceiving of unities or individuals. This is just the point Natorp draws attention to when he recalls the Parmenidean and Platonic antecedents to Leibniz’s arguments: a thing must have the right kind of unity to be a being properly so called.” Edgar, S. 2021, p.219.

⁴⁴⁷ „es muss daher schon ein actives, immaterielles Princip eingeführt werden, damit selbst ein bloss mechanisches Geschehen nur irgend verständlich werde. Daher ist es der Begriff der Kraft, welcher für Leibniz den Uebergang bildet von der streng mechanischen Auffassung der immanenten Zusammenhänge der Natur zu einer Metaphysik, welche ihre Principien höher hernimmt.“ Natorp. P., L, p. 9.

Matter has no unity of its own. There is nothing in matter that can provide that unity. The unity and the peculiarity of the type of unity that requires a non-material principle. Therefore, an active, immaterial principle must be introduced, so that even a purely mechanical event can be understood in some way. The need to seek this principle of unity is what in history has led to the concept of substance. The notion of substance has come to satisfy this requirement. The mistake has been to seek that principle of unity in matter. As an immaterial principle, the concept of force shows how mechanism does not lead to materialism but to idealism. Precisely, by the concept of substance, materialism is overcome. Leibniz showed that only by introducing this formal principle, we can differentiate appearance from phenomena. To be a phenomenon, in contrast to mere appearance, is to be a case of a law. As we explained in chapter 3, the unity of the legality is consciousness itself. For Natorp, the act of thinking itself can be defined as the search for unity. Thinking is comprehending the multiple in a unity. To think and, ergo, to conceptualize, is to give multiplicity a specific form of unity. The concepts, precisely, are modes of uniting. The ways of giving unity to the multiple are the concepts. Natorp maintains:

Was diese verlangte Einheit sei, lässt sich durch nichts Sinnliches deutlich machen, hingegen versteht es sich sofort durch die Reflexion auf die Grundbeschaffenheit unsres Denkens, welches, wiewohl eine Vielheit von Objecten umfassend, doch diese stets in einer Einheit darstellt, in einer Concentration gleichsam, welche eben das ausmacht, was wir Denken oder Bewusstsein nennen. Leibniz sah ein, dass auf solcher formalen, ideellen, begrifflichen Einheit das beruht, was die Wahrheit der Phänomene, die Substanz oder das Wesen der Dinge im Unterschied von der blossen Erscheinung ausmacht.⁴⁴⁸

Natorp claims that thinking is giving unity to the multiple and that concepts are precisely these modes of reunion. Unity is that provisional point of view. The articulating unity is the law that regulates the ways in which the multiplicity is reunited in a unity. This

⁴⁴⁸ Natorp, P., LM, p. 9.

provisional point of view is the law. The law is the expression of the unity of the point of view. Leibniz, Natorp claims, was the first to see this required unity in the unity of the law. The law is this ideal unity that shapes multiplicity. The law allows a ‘representation’ of the substance of the thing because it allows to articulate a specific point of view, “no longer material and sensible, but formal and ideal.” Natorp states:

Nur unter Einer Gestalt kann die „Substanz“, welche vor unsern Sinnen in den Formen des Raumes und der Zeit bloss erscheint, von uns gedacht werden: unter der Gestalt des Gesetzes. Im Begriff des Gesetzes, als der eigentlichen Darstellung der Substanz der Dinge, hat denn Leibniz ein ganz und gar / nicht mehr materiales und sinnliches, sondern formales und ideelles Princip erreicht; die Metaphysik des Materialismus war damit erst gründlich überwunden, während zugleich alles Berechtigte desselben, nämlich die Forderung der strengen Durchführung des Naturbegriffs, der ja auf nichts beruht als auf dem Begriff des Gesetzes, ungeschmälert erhalten blieb.⁴⁴⁹

For Natorp, the phenomenon can only be constituted thanks to this unity of the law. Shapeless multiplicity, as a mere appearance, can only acquire the form of a phenomenon thanks to this ideal unity. The unity of the phenomenon constituted by virtue of the law contrasts with mere appearance. To be a phenomenon is to be a multiplicity united under the point of view of the law. This was Leibniz’s discovery. For Natorp, Leibniz recognized that on the basis of such a conceptual unity that the essence of things (the substance) contrasts with mere appearance. Therefore, the substance must be understood as a legal determination of the phenomenon. The substance of the phenomenon is this legality which, by giving it an objective determination, concomitantly gives it reality as opposed to mere appearance. To be real is to be a case of the law. To be constituted by it is the objective, or real. To think of an object as real is to think of it as being a case of the law. Natorp takes the examples which have already been introduced by Cohen: the algebraic series and the generation of a curve⁴⁵⁰. As matter itself does not contain any

⁴⁴⁹ Natorp. P. LM, p. 9.

⁴⁵⁰ As Hernán Pringe explains, for Cohen, the introduction of the infinitesimal calculus came to solve these issues: “...according to Cohen, the history of infinitesimal calculus shows that there are three fundamental problems that the notion of infinitesimal enables us to solve. Firstly, the geometrical problem of tangents; secondly, the algebraic problem of series and, finally, the dynamical problem of velocity and acceleration.”

principle to act, to establish an identical subject of movement, it is necessary to introduce a principle to guarantee this identity. Leibniz showed that “an identical subject of any movement cannot exist without a formal principle of force”, and “the immutable unity of the changing states of the same subject, in which its entire sequence is expressed as an algebraic series”⁴⁵¹.

As we explained in Chapter 3, the relation is the fundamental concept of thinking⁴⁵². The act of thinking consists in establishing relationships, and the number is the first expression of this procedure⁴⁵³. In the algebraic series, every number can be conceived as a member. Every member can be defined by the position that it occupies. Indeed, the series is compounded by the members but, the members do not precede the relation they have among themselves. The law of the series determines the nature of the members and the relations among each other. Every member is defined by the position it assumes. The parts cannot precede the whole, as Kant explained the concept formation. Nor can the members be obtained by abstraction from any previous given data. In this case, parts and whole arise simultaneously⁴⁵⁴. Besides, every member can be considered

Pringe, H., 2020b, p.142. Also, Giovanelli, M, 2011 pp. 213ss..According to Marco Giovanelli, Natorp’s account of “infinitesimal method” is completely different from Cohen’s conception. He considers that “Natorp puts forward a conception of the “infinitesimal method” that is actually very far from Cohen’s.” Giovanelli, 2011, p. 215. I consider that while in Cohen, the core of the argument is the problem of the infinitesimals (Cf. Pringe, H., 2020b, esp., p.276), in Natorp, the basis of his proposal is the broader problem of the theory of the concept formation. This aspect of the Neo-Kantian approach to Leibniz has not been sufficiently highlighted. In general, scholars focus on the problem of the infinitesimal calculus. Cf. Holzhey, Helmut. 1986, Giovanelli, Marco 2011, Scott, Edgard, 2021. Indeed, this was the core of the Cohenian reading. However, I think that Natorp’s reading of Leibniz makes emphasis in the theory of concept formation and not in the problem of infinitesimals.

⁴⁵¹ „denn diese bedeutet nichts weiter als diejenige unveränderliche Einheit der wechselnden Zustände desselben Subjects, worin deren ganze Folge ausgedrückt ist wie eine algebraische Reihe in ihrer Formel oder wie alle Punkte einer Curve in der Gleichung, welche die Natur oder / das Gesetz der Curve ausdrückt. So verhält es sich ja thatsächlich schon bei jeder auch bloss derivativen Kraft; so sagen wir, es folge aus der Natur eines in einer gegebenen Graden mit gegebener Geschwindigkeit bewegten Körpers, dass er, von Störungen abgesehn, in gewisser Zeit einen gewissen Punkt der Graden erreicht...” Natorp. P., LM, p. 9.

⁴⁵² „Aber der wahrhaft letzte Grundbegriff des mathematischen und alles strengen Denkens überhaupt ist vielmehr die Relation. Es ist Täuschung, dass man die Termini voraus haben könnte, um erst aus ihrem Zusammentritt die Relation hervorgehen zu lassen. Mit Recht fragte bereits Plato: Waren die zwei etwa nicht zwei, bevor man sie zusammenthat? Mathematik hat überhaupt nichts zu thun, sie hat nur zu betrachten, und zwar zuletzt nichts anderes als Relationen. Die Relata sind erst gesetzt durch die Relation als deren Termini.“ Natorp. P., EGM, p. 3

⁴⁵³ Numbering is the first expression of thinking. This point was developed in chapter 3.

⁴⁵⁴ „Darin liegt nun aber der Hinweis auf ein logisches Moment; das in der Zahl von Anfang an schlummerte und doch bis dahin tief versteckt blieb; das in seiner fundamentalen Bedeutung für die Denkschöpfung der Zahl überhaupt von den Arithmetikern erst verhältnismäßig spät beachtet worden ist; nämlich jenes logische Moment, dem Kant den Name der „Relation“ beilegt, welches in Wahrheit aber vielmehr eine eigene Relation von Relationen darstellt. Sein genauer Ausdruck in der Sprache der Arithmetik ist die Funktion. Die Große als Veränderliche enthüllt ihre eigentliche Bedeutung erst, sofern dabei mitgedacht wird an eine gesetzliche Beziehung, gemäß welcher eine Wertreihe einer anderen von Glied zu Glied korrespondiert Nicht die Größe ist veränderlich; die Größe als das Wiegroß muß vielmehr fest bleiben, und die Größe

a whole by themselves, and contain a multiplicity in it. The law of formation guarantees that the relation among the terms is always the same. In all the different variations of the relations among the terms, the qualitative unity is conserved. The qualitative unity of the law subsists. For this reason, there is no preeminence of the qualitative relation over the quantitative, as the law expresses the “unlimited possibility of composition and division” of the terms. The continuity required is on the ground of the possibility of thinking of positing relations⁴⁵⁵. This is the way in which the concepts are made. A priori concepts, such as mathematical concepts are generated as operations of thinking. They are functional concepts and not thing-concepts⁴⁵⁶. This is a clarification of the notion of concept as rule that the Kantian system required.

This is a point in common between Leibniz and Natorp. Leibniz and Natorp agree on the impossibility of empty concepts. In an article of 2005, “Gedanken ohne Inhalt sind leer“⁴⁵⁷, Mario Caimi shows that one of the innovations of the Kantian proposals was the introduction of the possibility of empty concepts. For Leibnizian rationalism, concepts have a content *per se*. On the contrary, according to Kant, pure concepts are empty. Mario Caimi exhibits that this is a novelty of the Kantian system: the possibility of empty concepts. I would like to suggest that this is another agreement between Leibniz and Neo-Kantians against Kant. As we explained in Chapter 1, for Leibniz, the difference between intuitive cognition and intellectual cognition is a question of degree. The representations of the sensibility and understanding have the same root. More precisely, concepts and intuitions do not come from different origins, but they have the same source. The difference between these two types of perception is the degree they achieve in the determination of the object. Actually, they are different degrees of the same function. For Neo-Kantianism, concepts are functions, modes of relations. The relation is introduced with the relata. There is no unity without a content and no content can be conceived unless it is thought under a unity. Thus, both for Neo-Kantians and Leibniz, there are no empty concepts. The problem of giving content to the concepts arises as a result of this novelty of the Kantian system: the possibility of empty concepts⁴⁵⁸. For Kant, the relation between

als Kontinuum bedeutet nur die Allheit der Werte je unter einem gegebenen Gattungsbegriff; sie ist die Bedingung der Veränderlichkeit, aber ist selbst nicht veränderlich.“ Natorp, P., LGEW, p.202.

⁴⁵⁵ „Kontinuität ist ein so ursprüngliches, unverbrüchliches Gesetz des Denkens, dass überhaupt irgendwelche Diskretion sich nur als Diskretion eines Kontinuums will denken lassen. Also gibt es für das reine Denken das Kontinuum der Beziehungssine oder Richtungen ebenso wie das Kontinuum der Werte.“ Natorp, P., LGEW, p.237

⁴⁵⁶ „die mathematischen Begriffe Funktionsbegriffe, nicht Dingbegriffe sind.“ Natorp, P., LGEW, p. 144.

⁴⁵⁷ Caimi, M., 2005

⁴⁵⁸ Cf. Caimi, M., 2005, esp.142ss.

the representation and what is real is no longer grounded on the possibility of a complete analysis but on the possibility of giving content to concepts, which are empty merely by themselves. The introduction of the possibility of empty concepts comes along with the requirement of an external element to give content to the conceptual representations: intuition. According to Leibniz and Neo-Kantians, every concept has content. For Leibniz, as the concept is always composed of simple elements, it is never empty. An empty concept is not truly a concept but a mere notion, a chimera. There are not empty concepts but those that contain a contradiction. For the Leibnizian conception, all non-contradictory concepts have content and then, all knowledge can arise from them. According to Neo-Kantians, the function introduces the relation and the relata at the same time. As it was for Leibniz, for them too, concepts can never be empty and, therefore, there is no necessary reference of concepts to intuition to have content. Leibniz and Neo-Kantians agree on the impossibility of empty concepts.

Conclusion

In the first chapter, we studied the Kantian distinction between intuition and concepts. We exhibited that Kant inherited the definition of these notions. Concepts were defined as abstractive representations. Then, the question arose: how can essentially universal representations be related to singular objects? Kant concluded that there can only be fully determined knowledge as intuitions. More specifically, Kant argued that space and time are forms of intuition. The problem of the incongruent counterparts led to this result. However, now we see that the problem arose at first because of the generic definition of concepts. Indeed, space and time are not generic concepts, they are not internal properties that can be abstracted from things. However, neither are the pure concepts of the understanding nor the mathematical concepts. Then, when Kant concluded that space and time are not concepts, he should have concluded that they are not formed as empirical concepts. Kant defined concepts under the model of empirical concepts. As we showed in Chapter 1, this was the model of the Aristotelian-scholastic definition. We showed the insufficiency of this model to understand the notion of concepts as functions. The new theory of the concept formation is much more consistent with the Kantian proposal and explains the operative of non-empirical concepts, such as

mathematical concepts or even pure concepts of the understanding. In Chapter 2, we exhibited that neither the subjectivist perspective nor logicism could give a satisfactory answer to the Kantian question. Kant held that one of the central problems of knowledge was resumed in the following question: "... on what foundation rests the relationship of what we call representation in us with the object?" Kant answered this question by arguing that human beings need concepts and intuition. Kant believes our knowledge may relate to objects only by means of intuition. We exhibited that for Natorp, the question of how cognition may refer to the object requires rethinking the method of philosophy. The reformulation of the notions of intuition and concept is necessary for the accomplishment of a consistent idealism, for which intuition is a task of thinking and the concepts are functions and not mere processes of abstraction. We exhibited that the answer to the Kantian question relies on the exhibition of the functional character of concepts.

This investigation has made two main advances in relation to the existing studies on the Neo-Kantian interpretation of the distinction between intuitions and concepts. First, we have exhibited the positive role that the notion of intuition plays within Paul Natorp's system. Second, we have clarified the relation between his conception of the distinction between intuitions and concepts and the problem of method.

As we pointed out at the beginning of the investigation, the commentators agree that the pillar of the Neo-Kantianism proposal lies in overcoming the distinction between intuitions and concepts. Many researchers have recognized this aspect of the Neo-Kantian proposal. Éric Dufour, Marco Giovanelli, Reiner Munk, Rudolf Malter, Helmut Holzhey, Thomas Mormann, Christian Krijnen, Nicolas Warren, Hernán Pringe, Massimo Ferrari, among others, highlighted that the Neo-Kantian program is grounded on the conception that thinking can create both the singular and the universal representation⁴⁵⁹. Neo-Kantian scholars agree on the fact that "intuition is ultimately to be reduced to thinking"⁴⁶⁰. Certainly, Paul Natorp, one of the main representatives of the school, considers that accomplishing a genuine idealism requires clarifying the role of intuition in the process of knowing, by exhibiting how thinking produces nature as a whole. Indeed, one of the pillars of the Marburg Neo-Kantian "return to Kant" relies on a new approach to the dualism between intuitions and concepts. As commentators exhibited, for Natorp

⁴⁵⁹ Ferrari, M., 1997, p. 118. Dufour, É.; 2003, p.90. Giovanelli, M., 2005, p.116. Munk, R. 2005, p. 8. Holzhey, H., 2010, p.25. Giovanelli, M., 2011, p. 217. Mormann, T.; 2013, p. 241. Malter, R., 1981, p. 539. Krijnen, C., 2013, p. 168. Warren, N., 2015, p.90. Pringe, H., 2020, pp.137 ss.

⁴⁶⁰ Kim, A., 2015, p. 48.

intuitions and concepts do not have their origin in different faculties of the human mind - as Kant thought-, but they are modes of thinking. However, the studies have failed to exhibit the positive role that the intuitive moment has in the Neo-Kantian theory of knowledge. This investigation has shown that even when for Natorp the Kantian distinction between intuition and concepts needs to be revised, there still remains a positive role of intuition: exhibiting the limits of human thinking. As it was clarified in chapter 5, for Natorp, the intuitive factor is a demand for knowledge. The Kantian mistake is to turn the demand into an accomplishment of the demand. The introduction of the intuition in the system is a reminder that the complete determination of objectivity can never be achieved. Natorp accepts the introduction of intuition as a demand. Therefore, our investigation has shown the very positive role of intuition. This role has not been sufficiently recognized by scholars. This investigation makes an improvement in this direction by exhibiting both moments in Natorp's approach: a) The sovereignty of thinking in the creation of singularity and, b) the positive role of intuition.

Second, we exhibited that the reformulation of the distinction between intuitions and concepts comes along with the introduction of the task of accomplishing a consistent idealism. The problem of the distinction between intuitions and concepts is introduced with the problem of the possibility of the prosecution of a genuine idealism. Rethinking the method of philosophy ended up in a new way to understand the distinction between intuitions and concepts. We proved our thesis with two main arguments. First, we showed that the new distinction between intuitions and concepts is based on the criticism of psychologism and logicism. We explained how Natorp reformulates the Kantian distinction between intuitions and concepts arguing against these tendencies. Psychologism and logicism misunderstood the problem of the relation of concepts and intuitions due to methodological errors. Second, we exhibited that the clue to understanding how Natorp conceives the problem of the relation between intuition and concepts rests on his conception of the method of philosophy. In this way, we challenged the most canonical reading of Neo-Kantianism. Existing scholarship considers that the Neo-Kantian method consists in departing from the fact of science. Helmut Holzhey, Jünger Stoltenberg, Frederick Beiser, Alan Kim, Éric Dufour⁴⁶¹, among others, assume that the Neo-Kantian transcendental method takes the science of nature as a point of departure in the investigation. According to this conception, the Neo-Kantian method

⁴⁶¹ Dufour, E., 2003, Kim, A., 2015, p. 48, Holzhey, H., 2010, p. 34. Stolzenber, 2010, p. 133. Beiser, F., 2014, p.466., p. 23.

“...begins with ‘the fact of science’, that is, the acceptance of mathematical physics as a datum; it then explains how that fact is possible, specifying the conditions for a mathematical knowledge of nature”⁴⁶². Holzhey, one of the most important scholars within the Neo-Kantian studies, considers the concept of “category” to have only a historiographical function that only makes sense when Natorp refers to the Kantian system. According to him: “In his book *Die logischen Grundlagen der exakten Wissenschaften* of 1910, Paul Natorp employed the concept of 'category' only in a historical sense when referring to Kant.”⁴⁶³. It is interesting to note that assuming that Natorp departed from the fact of sciences, scholars have neglected to explain the role of Natorp’s deduction of categories. This is clearly seen in the reviews of Natorp’s *Logischen Grundlagen der exakten Wissenschaften*. Morris Cohen holds in his review:

In the second chapter, we have a modernized deduction of the categories. The dry bones of the Kantian framework receive a great deal of flesh and blood. In the end, however, they turn out to be our old friends the twelve, marching in four groups of three each. If it were not for the fact that students at our colleges do not read German, this chapter could profitably be recommended to those who are reading Kant for the first time and who generally cannot grasp what these categories are about.⁴⁶⁴

In our thesis, we proposed a new approach to the problem. The point of departure to overcome the heterogeneity between intuitions and concepts relies on the deduction of categories. In the deduction of categories, Natorp showed that the object is constructed *in and by* thinking. The Kantian question of how our representation can legitimately relate to the objects should be reformulated in terms of how thinking is able to produce objectivity. Thinking creates objectivity by the fundamental producers: the categories. Our investigation makes an advance in this direction. We explain not only the relation of the problem of method to the reformulation of the distinction between intuition and concepts, but we also showed that overcoming the heterogeneity between these two modes of representation demands such a method. We exhibited that only by this method, it is possible to overcome the heterogeneity between intuitions and concepts and, therefore, to

⁴⁶² Beider, F., 2014, p. 498.

⁴⁶³ Holzhey, H., 2005, p. 70.

⁴⁶⁴ Cohen, M., 1911, p. 694.

achieve a genuine idealism. The way in which Natorp carries out this task has not been developed either by his contemporary readers or by contemporary scholars. We consider that our investigation makes an interesting contribution in this direction.