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Theoretical assumptions in Kant's theory of time

Supuestos teóricos en la teoría del tiempo de Kant

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Abstract: In this article I argue that Kant's theory of time relies on two basic assumptions that are involved in his account of the necessary conditions of experience. I maintain that the temporal structure of experience encompasses the existence of a "tensed" series, according to which our representations occur in the present, past and future, and certain "laws of the temporal determination of experience", according to which the temporal conditions of experience cannot be altered. These rules establish that the empirical intuitions, which are derived from inner and outer experience, cannot be stopped, reversed or anticipated. I suggest that the tensed temporal series can be deduced from the Critique of Pure Reason (1781/1787) and especially from the second chapter ("System of all principles of pure understanding") of the 'Analytic of Principles'. Furthermore, the existence of the second assumption becomes evident in the Dissertation (1770), the 'Axioms of Intuition', the 'Second Analogy of Experience' and the 'Postulates of Empirical Thought in general'.

Keywords: Time, Inner sense, Synthesis, Intuition.

Resumen: En este artículo sostengo que la teoría del tiempo de Kant depende de dos supuestos que están involucrados en su explicación de las condiciones necesarias de la experiencia. Sostengo que la estructura temporal de la experiencia engloba la existencia de una serie "momentánea", según la cual nuestras representaciones ocurren en el presente, pasado y futuro, así como también la existencia de ciertas "leyes de la determinación temporal de la experiencia", según las cuales las condiciones temporales de la experiencia no pueden ser alteradas. Estas reglas establecen que las intuiciones empíricas, que son derivadas de la experiencia interna y externa, no pueden ser detenidas, revertidas, ni anticipadas. Sugiero que la serie temporal momentánea puede ser deducida de la Crítica de la razón pura (1781/1787) y, especialmente, del segundo capítulo ("Sistema de todos los principios del entendimiento puro") de la 'Analítica de los Principios'. Asimismo, la existencia del segundo supuesto se hace evidente en la Disertación (1770), los 'Axiomas de la Intuición', la 'Segunda Analogía de la Experiencia' y los 'Postulados del Pensar Empírico en general'.

Palabras clave: Tiempo, Sentido interno, Síntesis, Intuición.

1. Introduction

My concern in this paper is with Kant's account of time as a necessary condition of experience. This account involves both an "explicit" and "implicit" conception of time. The "explicit" conception involves two stages in which time is analysed. The first stage can be found in the 'Transcendental Aesthetic' where Kant claims that all our empirical representations of objects are ordered by temporal relations of succession and simultaneity ("B- series") (Kant, 1998, A30/B46).^[1] The second

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level can be observed in the ‘Analytic of Principles’, where he analyses time in terms of transcendental schemata that enable the application of categories to intuition (1998, A138/B177f.). Accordingly, these two levels are intended to show that time is both a condition by which our intuition of objects is possible and a condition of the connection between the categories and the manifold of intuition.

The “implicit” conception of time yields two different assumptions. According to the first one, the temporal structure of experience is subject to a “tensed series” of time (“A- series”), according to which all our representations are ordered in time by their position in the past, present or future. D. H. Mellor’s (1998b) and Ralph C. S. Walker (2017) admit the presence of this assumption in Kant’s account of time, but they fail to locate and discuss the passages that provide support for this assumption. In contrast, R. Brandt (1999) and L. Friedman (1953) reject the presence of such an assumption in the ‘Transcendental Aesthetic’, although they do not explore other places of the CPR where this becomes clear. The second assumption, which has been almost entirely overlooked by Kant’s commentators, points out that the apprehension of appearances, for Kant, is always successive and the temporal direction, in which the components of the appearances are apprehended, cannot be modified by our will.

2. On the distinction “tensed” and “tenseless”

McTaggart has made an invaluable contribution to the discussion of the reality of time in his article “The unreality of time” (1908) ^[2], by making explicit a distinction between two series of time:

Positions in time, as time appears to us *prima facie*, are distinguished in two ways. Each position is Earlier than some, and Later than some, of the other positions. And each position is either Past, Present, or Future. The distinctions of the former class are permanent, while those of the latter are not. If M is ever earlier than N, it is always earlier. But an event, which is now present, was future and will be past. (McTaggart, 1908, p. 458)

Accordingly, the positions in time (also called moments) of the B series are permanent, so that the position of an event “F” in time will be always earlier than the event “G”. For instance, if the event “drinking poison” is earlier than the event “being dead”, then the event “being dead” will never be earlier than the event “drinking poison”. On the contrary, the temporal positions in the A series are not permanent; for example, the event “the day of judgement” which yesterday was future for the accused, is a present event today and it will be a past event tomorrow.

Despite of the fact that McTaggart does not accept the main theoretical tenets of Kant’s theory of time, I suggest that the aforementioned series may lead us to a clearer understanding of Kant’s account of time. The connection between tensed and tenseless properties of time is remarkably depicted by Peter Bieri through the concept of ‘temporal experience’ (*Zeiterfahrung*), as he claims: “to experience time [...] means

that the events of reality are determined as ordered according to earlier-later and according to past, present and future through the temporal becoming and we acquire knowledge about it in some manner”^[3] (Bieri, 1972, p. 79; my translation). In this vein, I suggest that Kant would be sympathetic to regard the temporal structure of human experience as a composite of tensed and tenseless series, namely these series would be two sides of the same coin.^[4]

However, the presence of tensed series in Kant's account of time has not always been admitted by some commentators. For instance, Reinhardt Brandt holds that the CPR does not deal with ‘time of experience’ (Erlebniszeit), that is, with past, present and future (i.e. “modal” time), nor with the experience of ‘everyday life’ (Alltag), but exclusively with the universal lawful natural science (Brandt, 1999; Friedman, 1953). In my opinion, Brandt is correct in holding that Kant deals only with simultaneous, earlier, later relations (i.e. “relational” time) in the ‘Transcendental Aesthetic’, although he overlooked the presence of these tensed elements in the ‘Analytic of Principles’ (I focus on this point later). Lawrence Friedman also defends the aforementioned distinction as he suggests that “time may be artificially analyzed into two elements, one emphasizing the manifold which is grasped in a “point”, the other emphasizing the unextendedness of the “point”” (Friedman, 1953, p. 382; Mellor 1998a).^[5] According to Friedman, Kant does not accept that the sequence-series “past, present and future” is a pure basic manifold of time. Friedman suggests that such a series cannot identify the objective locus of the individual consciousness and that the concept of “now” does not distinguish our position in time (Friedman, 1953).

In contrast, Ralph C. S. Walker recognizes the presence of the tensed series in Kant's account of time as he maintains that “like McTaggart, Kant would have held that it is only through this [the A-series] that we can understand the B-series, the series of events understood in terms of ‘before’, ‘after’, and dating systems” (Walker, 2017, p. 209). In Walker's view, the temporal order of the material derived from experience through the tenseless series ultimately depends upon the tensed series. Furthermore, Peter Bieri rightly makes the observation that the tenseless and tensed series, understood as temporal relations, cannot be object of empirical intuition (i.e. sensation). That is, neither ‘the simultaneous’, nor ‘the past’ can be experienced as an object:

One cannot describe the relation earlier-later as a sensible datum. Even if that which is related is always sensed or perceived, the relation itself is not. Certainly, every sensible experience orders its data with regard to it; however, it [the relation] is not an object of such experience but is presupposed in them. We have already seen earlier that this applies to the A-series.^[6] (Bieri, 1972, p. 80; my translation)

Accordingly, tenseless and tensed series should not be ascribed to objects themselves, nor to time in itself but rather to our experience, namely to our inner appearances that, consequently, take place in present, past and –maybe- future.^[7] I think that Kant would also be reluctant

to admit that time is present, past or future or that time is in present, past or future. For the first idea would imply that time in itself changes from one condition to the other, or, that there are many times, and some of them take place in the past, while others in the present and so on. The second idea is also problematic because it would imply that time in itself (T1) demands a higher kind of representations (T2) in which the former occurs. None of these two ideas seems plausible, because Kant does not think of time as a changing representation derived from experience but rather as an unchanging, one, boundless representation in which our representations change (Kant, 1998, A31-2/B47-8, A42/B58).

Coming back to McTaggart, he suggests another series, called C series, which is not temporal because it does not involve change but only an order. Thus, according to C series, “events have an order. They are, let us say, in the order M, N, O, P. And they are therefore not in the order M, O, N, P, or O, N, M, P, or in any other possible order” (1908, p. 462). The C series determines the ‘order’ of the B series from earlier to later, according to which the B series runs always M, N, O, P. However, the C series cannot determine the ‘direction’ of the events, for

It [the B series] can run either M, N, O, P (so that M is earliest and P latest) or else P, O, N, M (so that P is earliest and M latest). And there is nothing either in the C series or in the fact of change to determine which it will be (1908, p. 462). ^[8]

Accordingly, the C series is grounded on simultaneous existence of the elements (17, 18, 19, 20, 21...), and because of this simultaneity two directions are possible with regard to the order of the elements, namely from 17 to 21 or from 21 to 17. According to McTaggart, the C series is not temporal because it does not involve change but only an order of simultaneous events that we experience. Kant, by contrast, holds that “our apprehension of the manifold of appearance is always successive, and is therefore always changing” (1998, A183/B226). ^[9] This means that even though we experience two events as simultaneous, our representations of such events will occur in a successive series of different instants. ^[10] Of course, both succession and simultaneity are temporal relations, but only succession is the dimension of time (1998, A31/B47). And in virtue of this dimension, the manifold of appearances is always apprehended successively, so that the contents of our experience flow in different and successive instants (CPR A182/B225; A198/B243). Unlike McTaggart, Kant does not think that we experience an order of simultaneous fixed events apart from succession, for “simultaneous things are not simultaneous because they do not succeed one another. For if succession is removed, then some conjunction, which existed in virtue of the series of time, is, indeed, abolished” (1992, Ak 2:401 footnote). However, Kant would be sympathetic to admit that the temporal order, in which our representations of our inner states and of external objects take place, cannot be altered but it is determined by the spatiotemporal addition of one element to the other (1998, A99, A182/B225-6, A161-2/B202-3).

2.1 Tensed elements in the 'Anticipations of Perception'

In the section 'Principles of the Pure Understanding', Kant deals with the conditions for the possibility of experience and suggests that those principles are not derived from experience but are conditions of its possibility. For all objects of experience are determined by the synthetic unity of the categories, which connects the manifold of the intuition in a possible experience.^[11] These pure principles are, then, rules according to which all possible objects are necessarily subject to the categories, and in virtue of these principles our knowledge of appearances corresponds to a knowledge of objects. Of course, the source of the principles is nothing else but the pure understanding, which is the faculty of the rules (1998, A158-9/B197-8). In my opinion, certain passages of the 'Anticipations of Perception' provide philosophical elements for holding that the tensed series is an essential component of Kant's theory of time.^[12]

Accordingly, Kant claims that the matter of intuition i.e. 'the real of the sensation' (das Reale der Empfindung) cannot be originated a priori but is necessarily derived from the sensations of the objects. This real content corresponding to the matter of all appearances has an intensive magnitude which is subject to variation (1998, A166/B207-8). Therefore, the reality of our intuitions varies in degrees, from 0 degree of reality, through intermediate degrees, to a full degree of reality. Further, our apprehension of appearances provides us with intuitions of empirical qualities that have certain degree of reality depending upon the lack (negation of the phenomenon) or the sufficiency of sensation (realitas phenomenon) with regard to the instant at which they occur.^[13]

Kant's view of intensives magnitude can be illustrated by taking into consideration our perception of the leaf of a tree, whose prominent^[14] green color varies and, therefore, also its degree of reality varies. Thus, in some instant our perception of the green color has a full degree of reality, while in another instant (when the leaf gets dry) the degree of reality of the green color starts to decrease and our perception of the yellow color starts to increase its reality; hereafter, our perception of the yellow has full reality while our perception of the green color decreases until 0 degree of reality. The latter example shows that our perception of the green color fills an 'instant' (Augenblick) which no longer exists (it is a past instant) and our perception of the yellow color takes place, by replacing the former one; therefore, that perception is past with respect to the perception of the yellow color which is now present and, necessarily, the perception of the yellow color will be past with respect to the brown color of the leaf.^[15]

Accordingly, if the reality of one perception fills one instant, then many perceptions of the same appearance will fill many instants which should be related somehow in order to constitute the unity of the appearance as the same appearance through different instants. Thus, one might claim that those instants, in which those perceptions occur, should be related by taking into account their position in the past, present or future. As a

result, the variation in our perception of the leaf's color will not entail the existence of different leaves but simply changes of the same leaf from a past instant to a present one which is also replaced by another and so on. Indeed, our perceptions of the green, yellow and brown color corresponding to the entire leaf cannot have the maximum degree of reality at the same time, namely, filling the same instant. On the contrary, it is necessary that each of those perceptions fills one instant. Nevertheless, it is possible that we can experience only the green color and afterwards the brown one, for according to Kant,

The real in appearance always has a magnitude, which is not, however, encountered in apprehension, as this takes place by means of the mere sensation in an instant and not through successive synthesis of many sensations, and thus does not proceed from the parts to the whole; it therefore has a magnitude, but not an extensive one. (1998, A168/B210)

Consequently, our apprehension of the appearances need not be thought of as necessarily continuous. For in one instant our perception of the green color may be real and later, in another, our perception of the yellow color may also be real without entailing that we need to have the perceptions corresponding to all the intermediate degrees of reality between the green and the brown color. Accordingly, the intensive magnitude is flowing because the synthesis (performed by the productive imagination), through which that magnitude is generated, is a progress in time (1998, A170/B211-2). It means that in the act of the mind by which it synthesizes the manifold of appearances, representations are flowing in distinct instants of time and, therefore, the continuity (i.e. the reality of appearances during certain times) must flow as well.^[16] It is plausible to claim that this “flowing” character of our intuitions endorses the first law of temporal determination of our representations, according to which our empirical representations, which are occurring cannot be stopped, for these flow unalterably in time.

Moreover, Kant admits that between reality and negation of perceptions there is an endless quantity of intermediate degrees but, in any case, if the perception of some appearance is to be considered as real, it must fill some instant (1998, A172/B214). At this point, he also makes clear that if -hypothetically- some perception or experience shew a complete lack of reality, it could not prove the perception of an empty space or of an empty time^[18] (1998, A172/B214). Accordingly, it would be contradictory to have real perceptions of appearances which lack reality, namely, appearances whose properties do not fill space or time.

Kant explains that the intensive magnitude of some appearance may be greater or smaller, albeit its extensive magnitude remains the same (1998, A173/B214). Thus, when one looks at the leaf and perceives the alteration of color, the reality corresponding to the perception of some color increases, whilst the reality corresponding to the perception of other color decreases. Disregarding the former variation, the extensive magnitude is the same, insofar as the perception of the leaf has not ceased to fill space and time. Of course, Kant distinguishes between what can be

anticipated (a priori) in our experience of objects and what can only be given through the experience (a posteriori):

The quality of sensation is always merely empirical and cannot be represented a priori at all (e.g. colors, taste, etc.). But the real, which corresponds to sensations in general, in opposition to the negation = 0, only represents something whose concept in itself contains a being, and does not signify anything except the synthesis in an empirical consciousness in general. (1998, A175-6/B217)

Accordingly, the reality corresponding to our perception of the leaves' colors and the variation of its reality rely on the experience, so that, its reality can only be recognized a posteriori. On the contrary, the property of the perceptions by which they have certain degree of reality is recognized a priori. This property corresponds to space and time which, as subjective conditions by which perceptions become real, render possible a synthesis of the appearances in relation to empirical consciousness (1998, A176/B218).

2.2 Tensed elements in the Analogies of Experience

I argue that tensed properties of time are involved in the 'First Analogy of Experience'.^[19] Kant says there that only by means of experience we realize that the existence of some things is successive or simultaneous with respect to the existence of other things (e. g. our intuitions of the sun and of the light are simultaneous). However, the condition of simultaneous or successive cannot be ascribed to things in themselves but to our representations of them, i.e. to appearances. For, successive or simultaneous changes of appearances can only be thought in time, that is, as temporal determinations of those appearances (1998, A182/B224-5). Indeed, the existence of all successive or simultaneous change of appearances is not to be regarded, so to speak, as an absolute (independent of everything) but as relative; insofar as it is possible only in relation with something persistent which always remains in time, i.e. substance.^[20]

The inclusion of tensed elements in Kant's exposition of substance becomes clear as he affirms that substance is the substratum of all temporal determination^[21] of appearances that occur in the past, present or future:

If that in the appearance which one would call substance is to be the proper substratum of all time-determination, then all existence in the past as well as in future time must be able to be determined in it and it alone (1998, A185/B228).

Accordingly, substance constitutes the perdurable existence of the subject of the appearances and, therefore, its occurrence in the past or future is a relevant factor of the temporal determination of change of the appearances. Substances are those appearances whose existence is presupposed to last during all time, namely through the past, present and future. Further support for this idea can be provided by Kant's claim: "we can grant an appearance the name of substance only if we presuppose its existence at all time, which is not even perfectly expressed through the

word “persistence” since this pertains more to future time” (1998, A185/B228-9). Indeed, Kant underlines the fact that the changes which are ascribed to the objects are nothing but perceptions of them, which depend on the perception of something that persists not only in future but also in the past and in the present.

Indeed we have perceptions that inform us about alterations corresponding to some states of substances, although ‘the arising’ and of ‘the removing’ of substances cannot be an object of human perception and cannot be regarded as ‘alterations’ (*Veränderungen*) of substances (1998, A187/B230). On the one hand, if the perception of ‘the arising’ of certain substance were possible, we should perceive its existence as space-less and timeless and, afterwards, we should perceive it, while it is filling space and time. On the other, if the perception of ‘the removing’ of its existence were possible, we should perceive its existence as filling space and time and, afterwards, we should perceive its existence as space-less and timeless. Both ideas are impossible, because it undermines the spatiotemporal unity of the appearances:

The arising of some of them and the perishing of others would itself remove the sole condition of the empirical unity of time, and the appearances would then be related to two different times, in which existence flowed side by side, which is absurd. (1998, B231-2/A188)

In fact, human experience is not possible apart from space and time as a priori conditions of its possibility. Therefore, if our perceptions of the ‘alteration’ of substances are real, they should inform us of changes in the way in which something persistent exists. Further, a certain ‘way of existing’ (*Art zu existieren*) of a substance is followed by another ‘way of existing’, so that substance is lasting and its states change, as long as its determinations cease or begin (1998, A187/B230).

To my knowledge, the ‘Second Analogy of Experience’ provides additional support for the presence of tensed elements in Kant’s theory of time. He starts the latter section from a conclusion reached in the ‘First Analogy’, according to which all ‘change’ (*Wechsel*) of appearances is nothing but alteration and, hence, the arising or the removing of substances will be excluded from his analysis of the conditions for the possibility of the experience. In perceiving the changes in substances, one perception follows another, since the productive imagination^[22] has the capacity of relating two perceptions in time through the determination of inner sense, in such a way that the one precedes the other (1998, A189/B233). Accordingly, the synthesis of the imagination is always successive and determines only that perceptions flow one after the other. Albeit, it does not establish what representations are earlier or later, or the direction in which they flow (from front to back or vice versa). Therefore, the order and the direction of the representations should be derived from the objects of the experience:

If this synthesis is a synthesis of apprehension (of the manifold of a given appearance), then the order in the object is determined, or, to speak more precisely, there is therein an order of the successive synthesis that determines an object, in

accordance with which something would necessarily have to precede and, if this is posited, the other would necessarily have to follow. (1998, A201/B246)

In fact, our apprehension of an occurrence contains a manifold, whose unity is only possible, if the manifold is related in time. For, if we ascribe relations of cause and effect to the apprehension of an occurrence of which we have the perceptions “g, e, f, h, d, c”, those perceptions should be mutually related by imagination in accordance with some specific order (i.e. some as ‘earlier’ and others as ‘later’) and direction. The order and the direction according to which those perceptions flow in that succession are derived from experience, which prevents the order of our perceptions from being different from “c, d, e, f, g, h...” and their direction different from “starting with c and ending with h”. However, the objective relation of the successive appearances, wherein some states are arranged as preceding or as following, cannot be ascribed to objects in themselves but only to our perceptions of them.^[23] In this vein, the determination of the order among our representations is merely grounded on our perception:

In the series of these perceptions there was therefore no determinate order that made it necessary when I had to begin in the apprehension in order to connect the manifold empirically. But this rule is always to be found in the perception of that which happens, and it makes the order of perceptions that follow one another (in the apprehension of this appearance) necessary. (1998, A192-3/B238; translation modified slightly)

Granted that our perceptions in the successive synthesis of appearances do not take place at the same time but one after the other, our perceptions can only flow temporally in one direction. As a result, the activity of the understanding focuses on applying, via judgements, the pure concept of cause to the earlier perception and the concept of effect to the later perception. It means that the necessary determination of a state as a cause or as an effect (in the succession) depends upon the application of the concepts of cause and effect, which is not achieved by the perception itself but by understanding through the categories (1998, A189/B234). Again, Kant is reluctant to claim that we perceive causal relations in objects themselves independently of our experience, because such relations only work upon our perceptions of them (1998, A194-5/B239-240). Causal judgements are neither contingent nor arbitrary but are grounded on an a priori law that is characterized by Kant as follows:

I always make my subjective synthesis (of apprehension) objective with respect to a rule in accordance with which the appearances in their sequence, i.e., as they occur, are determined through the preceding state, and only under this presupposition alone is the experience of something that happens even possible. (1998, A195/B240)

To be accurate, this synthesis is subjective because it does not belong to objects themselves but to our representations of them and objective insofar as it refers to objects that affect our sensibility. Therefore, when we experience that “C” occurs, we presuppose that something “B” has preceded it, from which “C” succeeds. The manifold of the

representations is synthesized in such a way that those representations occupy certain places in time and the occurrence of the preceding determines successively the existence of the following and so on. Hence the order in which our perceptions flow is linked to their position in the past and present:

There is an order among our representations, in which the present one (insofar as it has come to be) points to some preceding state as a correlate, to be sure still undetermined, of this event that is given, which is, however, determinately related to the latter, as its consequence, and necessarily connected with it in the temporal series. (1998, A198-9/B244)

Accordingly, the causal relation consists in certain order among our representations, wherein the existence of a present representation (which becomes past) is the correlate or the consequence of an ‘event’ (Ereignis) which was present but now is past. However, this correlate is not abolished but ‘is given’ (gegeben ist) in the past, for if the past representation were abolished, it could not determine the existence of the present one, and there would not be succession among our representations. Hence, if there were not a successive flux among our representations, experience would be a collection of separated representations, wherein no causal relations would be possible.

Kant emphasizes that the preceding time necessarily determines the following one, in as much as we can only reach the following time, if we have reached the preceding one. He argues that this determination comes from a law of the empirical representation of the temporal series according to which “the appearances of the past time determine every existence in the following time, and that these, as occurrences, do not take place except insofar as the former determine their existence in time” (1998, A199/B244). In fact, from the connection of times emerges certain continuity that cannot be empirically recognized in “time itself” but in appearances, since time is not a “related” object of experience. ^[24]

Furthermore, Kant claims in the third ‘Analogy of Experience’ that substances, which are perceived by us in space, exist in a reciprocal relation. ^[25] However, it does not mean that the succession of instants need to be thought of in terms of causal relations. The present instant cannot be taken for the effect of the past one, nor can the present one be taken for the cause of the future one. For, time itself cannot be perceived as an object of experience, which is synthesized by the concepts of cause and effect (1998, A211/B257). If we had no concept of ‘community’ (Gemeinschaft), our perceptions of substances would be completely isolated representations in an empty space and we could not determine whether a substance “perceived as earlier” follows or precedes objectively the substance perceived in another moment nor whether they are both simultaneous (1998, A212/B259).

However, one may ask how it is possible that substances can be simultaneous, since our apprehension of them is always successive. Kant certainly claims that some representations are simultaneous only, if they occur at the same time, but it does not imply necessarily that they must occur at the same instant; they can occur in different instants

(1998, A211/B257). Kant illustrates this form of simultaneity by means of the following example: we can direct our perception towards the moon (A) and, afterwards, towards the earth (B). In the example, one notices that their coexistence does not demand some specific order among these perceptions but some length of time in their existence; namely, the duration of each perception should last enough to go from one perception to the other. As we perceive the moon and afterwards the earth, the perception of the moon (earlier), in the displacement from one perception to the other, must fill a distinct instant of time with regard to the perception of the earth (later). ^[26] Kant affirms that this simultaneity can only be represented as objective by means of the application of the pure concept of community:

A concept of the understanding of the reciprocal sequence of the determinations of these things simultaneously existing externally to each other is required in order to say that the reciprocal sequence of perceptions is grounded in the object, and thereby to represent the simultaneity as objective. (1998, A210/B257)

Those perceptions, which are synthesized by the concepts of community or 'interaction' (Wechselwirkung), need to have the sufficient duration which is grounded on the duration of the influence of the objects upon our senses. Accordingly, the concepts of community or interaction connect all appearances and determine their place in time in order to form a whole (1998, A214/B261). It means that their connection in time is possible, if the times, in which they occur, so that the instant in which we perceive the moon is contiguous to the instant in which we perceive the earth. Nonetheless, if we have the experience of an appearance whose representations occur in the order of instants "A, B, C, D, E", neither the order of the representations nor the order of instants, in which they occur, can be inverted. In fact, our empirical perceptions cannot flow in the opposite order by the power of our will, but they are determined by one specific order:

If they existed in time one after the other (in the order that begins with A and ends at E), then it would be impossible to begin the apprehension at the perception of E and proceed backwards to A, since A would belong to past time, and thus can no longer be an object of apprehension (1998, A211/B258).

Accordingly, human experience is subject to a series of successive relation of our representations and we cannot reverse the order in which the elements are related as empirically given before – after (1998, A198/B243-4). Finally, Kant underlines that time is not something in which experience determines immediately the position of existence of everything. For time does not have an absolute existence and, therefore, cannot be considered as something given out there in the world, which needs to be filled by things. Time, by contrast, is an a priori condition of the reciprocal relation among appearances and the position of appearances in time is determined by the rules of the understanding. ^[27]

3. Laws of the temporal determination of experience

I argue that Kant's theory of experience involves the existence of three laws that determine temporally the contents of experience. Accordingly, the first rule determines that when we successively experience things, we cannot stop the current representation, but once this representation occurs, becomes past and is succeeded by another representation and so on. I suggest that this law is involved in the *Dissertation* (1770), where Kant claims that all changes are continuous, or that they flow, in as much as the states of things succeed temporally other states through an intermediate series of diverse states. As he puts it:

All changes are continuous or flow: that is to say, opposed states only succeed one another through an intermediate series of different states. For two opposed states are in different moments of time. But between two moments there will always be an intervening time, and, in the infinite series of the moments of that time, the substance is not in one of the given states, nor in the other, and yet it is not in no state either. It will be in different states, and so on to infinity. (Kant, 1992, Ak 2:399-400)

Indeed, our representations of changing things flow continuously, for they are constantly arising and passing away. Moreover, our representations of the change or of persistent objects (such as substance) do not occur in one specific moment but in an infinite series of instants, namely, they are posited in diverse instants. As a result, all our representations are not static in time, but flowing in a sequence of times, although time itself does not change, for it is in time wherein all changes are represented by us as successive or simultaneous (1998, A41/B58).

The **second** law determines that an occurred representation is a past representation and cannot be reversed as a present representation (as it originally was).^[28] The synthesis of reproduction does not contradict this law, for the reproduction does not take place in intuition, i.e. in sensibility, but rather in imagination (1998, A100-1). The latter reproduces a past representation, forming a transit with the next representation whose result is a synthetic unity (1998, A101-2). As the reproduction does not take place in sensibility but in imagination, the object does not affect sensibility as it occurred previously, so that the original representation cannot be reproduced. Accordingly, the reproduced representation is not the original one but a quantitative and temporally (in another instant) new one. Even, the reproduced representation in imagination needs, in the synthesis of recognition in the concept, to correspond to the 'apprehended' representation in sensibility, precisely because it cannot be the original one (1998, A104).

I consider that this second law should be assumed in the 'Axioms of Intuition'. Kant maintains in that section that all 'appearances' (*Erscheinungen*) are apprehended by empirical consciousness as their manifold is synthesized and, as a result, we get a spatiotemporal representation of that manifold. Therefore, the synthesis of the manifold of the empirical intuition originates the perception of the object, whose spatiotemporal unity constitutes its

extensive magnitude (1998, A162/B203). Particularly, appearances have an extensive magnitude when the spatiotemporal representation of their parts makes possible the representation of them as a spatiotemporal whole, so that the representation of the object demands that we form it little by little in space or in time until the whole is formed:

I cannot represent to myself any line, no matter how small it may be, without drawing it in thought, i.e., successively generating all its parts from one point, and thereby first sketching this intuition. It is exactly the same with even the smallest time. I think therein only the successive progress from one moment to another, where through all parts of time and their addition a determinate magnitude of time is finally generated. (1998, A163/B203)

Accordingly, the apprehension of the manifold of an object demands that we add all its parts in time and space. One might ask why one instant should be necessarily added to the previous one.^[29] This is probably due to the fact that the previous (past) instant no longer exists, namely, it has passed away in the sequence of instants wherein it is replaced by the next (present) instant, so that it cannot be brought into the present. In fact, the impossibility of converting a past instant into a present one is grounded on this “third law”, according to which the specific time, in which an intuition has occurred, cannot exist again. That is to say, an occurred intuition is a representation that cannot be brought into the present as it originally was, namely as intuition but only as a memory.

Again, the apprehension of objects is nothing but an aggregate, wherein the present parts of time have been added to the past ones. Thus, when the temporal apprehension synthesizes the manifold of the intuition of objects, this intuition acquires its spatiotemporal form (1998, A163/B203). That apprehension is not exposed by Kant as an activity that occurs in one instant, but is rather conceived of as an act that is happening, as a successive synthesis in which we must run through the different instants in which the object is existing. In this vein, our empirical consciousness of an object cannot apprehend simultaneously all its temporal parts, because an instantaneous synthesis of all the spatiotemporal parts of the object in its present, past and future existence is not possible. On top of that, simultaneous apprehension of the manifold is not possible, since the dimension of time, in which they are represented, is not simultaneity but succession.^[30] Therefore, the apprehension entails a sequence of instants, wherein a present intuition is left in the past while a future one comes into the present (as intuition), which then becomes past, and so on.

In my opinion, this law is also involved in the ‘Second Analogy of Experience’. Kant focuses there on the law of causality and holds that “in the synthesis of the appearances the manifold representations always follow one another” (1998, A198/B243). This manifold is related in a sequence that is subject to the rule that if something happens, then something precedes it, so that the appearance acquires its temporal position in that relation. Kant suggests that there two consequences: “first, that I cannot reverse the series and place that which happens prior to that which it follows; and, second, that if the state that precedes

is posited, than this determinate occurrence inevitably and necessarily follows” (1998, A199/B243-4; my emphasis). According to the law of causality, the temporal position of the occurrences cannot be altered, so that the event “being dead” will never be earlier than the event “drinking poison” or “the broken glass” earlier than “dropping the glass”.^[31] Human beings cannot deliberately change the order in the series of events once they have taken place, but our representations are subject to an irreversible order in which the present empirical representation of an object points out some preceding undetermined state as its correlate, which is the effect of that past state.

In addition, the **third** law states that those “quasi-intuitions” posited in a remote future (I9) cannot be brought into the present, that is, they cannot be put between the present intuition (I1) and a contiguous future “intuition” (I2).^[32] Otherwise, this would break the sequence of the successive apprehension of appearances in experience. Certainly, our apprehension of the manifold given in sensibility is always successive (1998, A198/B243), so that every intuition is succeeded by another and so on, establishing an ordered sequence that might be exemplified as “L, M, N, O, P”. In this sequence, the past and future “intuition” are always connected with the present one in experience, thus, when we apprehend the manifold given in sensibility and we intuit M, it means that our following intuition cannot be Y. In other words, the intuition Y cannot take place before N, interfering between the intuitions M and N. For instance, when we plant a seed and we have in the present intuition M: ‘ground covering the seed’, the following “intuition” in the near future cannot be the intuition Y: ‘the same tree with a length of 15 meters’.

Kant indirectly makes reference to the third law of time when he suggests in the ‘Postulates of the empirical thought in general’ that the human being cannot have access to the intuition of a future event. In that section, he claims that the concepts of cause and effect express a priori the relation among our perceptions in each experience and, by means of this use, the transcendental truth of such concepts can be recognized (1998, A221-2/B269). In this vein, cause, effect and all the categories acquire the character of their possibility a priori, in as much as they are conditions for the possibility of experience. However, if we form new concepts of substances, forces or interactions by taking into account the material derived from perceptions, although ruling out experience, these concepts would be mere phantasies without a distinctive mark. For instance,

A substance that was persistently present in space yet without filling it (like that intermediate thing between matter and thinking beings, which some would introduce), or a special fundamental power of our mind to intuit the future (not merely, say, to deduce it), or, finally, a faculty of our mind to stand in a community of thoughts with other men (no matter how distant they may be) - these are concepts the possibility of which is entirely groundless. (1998, A222-3/B270)

Indeed, the possibility of all these concepts would be groundless, because they do not refer to any object given in experience and, therefore, no application of the categories is possible. On the contrary, they constitute an arbitrary connection of thoughts which, although

do not contain any self-contradiction, cannot have any pretension of objective reality (1998, A223/B270). In fact, the future cannot be given in sensibility as an object of intuition and, therefore, it cannot be determined by categories. It is rather an association of concepts which, without a ground in experience and regardless of the formal laws of the understanding, can only be “thought” or “imagined”. Kant distinguishes therein between ‘to intuit’ the future and ‘to deduce’ it. For the principle of causality demands that the subject, based on a present state, should be able to deduce a future state or event (effect) from a present one that is taken for its cause (1998, A189/B234). Needless to say, our mind does not have any clairvoyant power to intuit future events as a whole composited by an a priori form and an empirical matter, since these events are not objects capable of affecting sensibility at present and, therefore, cannot produce any intuition. And if such “intuition” were possible, it would be a mere hallucination. In contrast, the concept of ‘intuition’ (*Anschauung*) contains a tensed trace of the present, in as much as it refers immediately (*‘unmittelbar’*) to something that is given now (1998, A19/B33). ^[33]

In addition, one might be tempted to hold that the empirical intuition, through which the manifold is apprehended, is no longer an intuition when it becomes past, so that it cannot be referred to the same object. This is certainly a problematic situation, for to determine the actuality of intuitions it is necessary to determine whether the intuition of an object demands the existence of one or many intuitions. Such distinction entails a difference in the length of intuitions in time, so that the duration of the intuition in the former case is longer than in the second one. In my view, these options are not excluding, for when we intuit an object, we form a ‘whole intuition’ that is constituted by many intuitions which take place one after the other and they do it, therefore, in a succession of instants. Thus, each intuition takes place in each instant as a unity and the aggregation of these unities forms the unity of the appearance in time as a whole (1998, A99).

Moreover, the empirical intuition is a certain kind of representation by which the mind refers immediately to an object (or to its states) which affects sensibility. By means of this affection we apprehend successively a manifold that can be either outer or inner, resulting from this a flowing intuition in time (1998, A107, A169-70/B211-2). In this flux, some representations become past, insofar as they are succeeded by present representations which will become past, and so on. I suggest that when an intuition becomes past, it is no longer intuition, but only a representation that operates as a remembrance of intuition. For, as the intuition of an object becomes past and is succeeded by the present one, the past “intuition” loses its immediate reference to the object and such a reference can only be preserved through a new present intuition. According to Kant, the recognition of the ‘synthetic unity’ (*synthetische Einheit*) of the appearances requires the reproduction of the past representation in imagination in order to associate a past representation with the present one, i.e. intuition (1998, A101-2). Similarly, the synthesis of recognition

in the concept also demands that the matter (content) of the present representation should agree with the matter of the reproduced past representation (1998, A103). For, if the matter of the new representation differs from the matter of the past one, it would mean that the object or some of its states have ceased to affect sensibility in the same way they did previously. This would imply that the matter of the present representation could refer to a different appearance or to different states of that appearance.

To my knowledge, the Anticipations of Perception do not contradict this rule by laying out that all appearances have an intensive magnitude whose degrees are determined by the degree of influence of the objects on sense (1998, A166/B207-8).^[34] However, the ‘matter’ of perception cannot be anticipated but it can only be known through experience, that is, it is derived from experience. Of course, the ‘form’ of perception can be anticipated as long as space and time are a priori forms of intuition which are not derived from experience:

Since there is something in the appearances that is never cognized a priori, and which hence also constitutes the real difference between empirical and a priori cognition, namely the sensation (as matter of perception), it follows that it is really this that cannot be anticipated at all. On the contrary, we would call the pure determinations in space and time, in regard to shape as well as magnitude, anticipations of appearances, since they represent a priori that which may always be given a posteriori in experience. (1998, A167/B208-9)

Accordingly, granted that it is impossible to anticipate the matter of a future appearance but only its spatiotemporal conditions, inner and outer appearances as a whole cannot be anticipated, for they are necessarily constituted by form and matter (1998, A20/B34). It follows that the ‘matter’ of a future, undetermined and inexistent appearance of ourselves or of outer objects cannot be brought into the present. I suggest that even the empirical use of the categories of cause and effect relies on this third law. For instance, when we experience ‘the uprooting of a small bush because of a twist’, our intuitions of that event might be temporally ordered in the following manner: ‘L’: the intuition of the bush, ‘M’: the intuition of a twist upon the bush, ‘N’: the intuition of the shaking bush, ‘O’: the intuition of the bush moving through the air, etc. As a consequence, the intuition ‘O’ cannot take place before the intuition L, insofar as this alteration would destroy the sequence required by the formulation of a causal judgement (i.e. judgement of experience). Thus, if there were not a temporal relation among our intuitions, the order in which these occur would be always thoroughly unexpected and different, so that we could not formulate causal judgements.^[35]

Moreover, this third rule has also an influence upon inner appearances, for when a young human being is conscious of its inner states, its understanding affects inner sense, resulting in the intuition of its inner states, which is successively succeeded by another, and so on (1998, B157 footnote). In that case, this rule would state that this boy cannot put an inner intuition, derived from the empirical self-consciousness carried out in its old age within the flow of his current intuitions.^[36] I think that the

impossibility of breaking the sequence of successive apprehensions can be more easily evidenced in the outer appearances than in the inner ones. For in the former sequence, intuitions are related in time and space whereas, in the sequence of inner appearances, intuitions are only related in time. [37]

4. Conclusion

Now it appears that we need to conclude that Kant's theory of time entails certain assumptions, without which the temporal ground of experience would be in trouble. On the one hand, Kant lays out a temporal framework of experience in the 'Transcendental Aesthetic', based on tenseless series of time, although he uses a tensed series of time to explain the application of categories to intuitions in the 'Analytic of Principles'. On the other, the A-edition of the 'Transcendental deduction of the concepts of understanding' treats the crucial role of synthesis for the conditions of experience, and such treatment rests on inalterable temporal conditions of experience. The case is similar with the 'Analytic of Principles', for the very formulation of causal judgements rests on a concept of intuition which is determined by the abovementioned laws. However, I must confess that this exploratory approach cannot solve the interrogation whether the tensed series and the laws of temporal determination of experience belong to the a priori conditions of experience, or to things in themselves, or to something different.

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Notes

[1] References to Kant's works are by volume and page numbers of the Akademie edition (Ak) of Kants gesammelte Schriften (Berlin, 1900). References to the Critique of pure Reason use the standard notation (CPR) followed by the pages of its first (1781) and second (1787) edition (A/B). Translations are from the Cambridge Edition of the Works of Immanuel Kant; it should be noted, nonetheless, that I have occasionally

modified these translations. Where there is no reference to an English translation, the translation is my own.

[2] I will not discuss in this article the success or failure of the central idea of McTaggart's article. According to him, time is not real because the distinction of the terms past, present and future is essential to time, but those terms are never true in reality: "our conclusion, then, is that neither time as a whole, nor the A series and B series, really exist. But this leaves it possible that the C series does really exist" (McTaggart, 1908, p. 473).

[3] The original text reads: "Dann heißt Zeit zu erfahren unserem Ansatz gemäß, daß die Ereignisse der Realität nach früher-später geordnet und nach Vergangenheit, Gegenwart und Zukunft sowie durch das zeitliche Werden bestimmt sind und wir auf irgendeine Weise davon Kenntnis bekommen" (Bieri, 1972, p. 79).

[4] This idea is in line with D. H. Mellor's claim that "to give only the B-times of my experiences, without saying which of them I am having now, is to leave out precisely what makes them experiences" (Mellor, 1998b, p. 40).

[5] According to Friedman, the first element refers to memory i.e. to the grasped extension as pure sequence (one upon the other) and the second one refers to the unextendedness of the "point", that is to say, to "the momentariness of the knower" according to past, present and future elements. Hence momentariness of consciousness, according to Friedman, does not constitute a series but is rather a "perspective" as it makes reference to the point in which consciousness is making the "grasping".

[6] "Man kann die Relation früher-später nicht als ein sinnliches Datum bezeichnen. Zwar werden ihre Relata jeweils empfunden oder wahrgenommen, nicht aber die Relation selbst. Jede sinnliche Erfahrung ordnet zwar ihre Daten nach ihr; sie ist aber selbst nicht Gegenstand solcher Erfahrung, sondern in ihr vorausgesetzt. Daß dies auch für die A-Reihe gilt, haben wir schon früher gesehen" (Bieri, 1972, p. 80).

[7] D. H. Mellor suggests: "the fact is that even if objects do have tenses, these are not properties we can perceive as we perceive the colors, shapes and temperatures of objects. My seeing an object as present, or as past, is always an interpretation, based on some feature of it that is perceptible, such as its being a glow-worm as opposed to a star. This being so, we have good reason to regard tense as transcendental in Kant's sense, even on a tensed view of time" (Mellor, 1998a, p. 38).

[8] Despite of the fact that McTaggart holds that a series, which is not temporal, has no particular direction but only an order; he offers an example of a series that has order but not direction: "if we keep to the series of the natural numbers, we cannot put 17 between 21 and 26. But we keep to the series, whether we go from 17, through 21, to 26, or whether we go from 26, through 21, to 17" (1908, p. 462).

[9] Walker claims that "McTaggart thinks he can establish what the C-series is like, a sort of logical ordering of things. Kant regards any such conjectures as empty metaphysics, well beyond the limits of possible experience" (2017, p. 209). On my account, Kant would reject the C-series because he does not conceive of experience as a set of fixed simultaneous events but rather as a set of flowing events that take place successively according to the dimension of time.

[10] The fact that succession (unlike simultaneity) is a primary temporal series can be inferred from Kant's frequent claim that the manifold is always apprehended successively in intuition (Kant, 1998, A99, A103, A182/B225, A198/B243, A201/B246, A163/B203, etc.).

[11] "Experience therefore has principles of its form which ground it a priori, namely general rules of unity in the synthesis of appearances, whose objective reality, as necessary conditions, can always be shown in experience, indeed in its possibility" (1998, A156-7/B195-6).

[12] Klaus Düsing's suggests correctly that there is no evidence of present, past and future elements in the 'Transcendental Aesthetic'. He, nonetheless, notices their presence in the Second analogy of experience: "It turns out that Kant in the 'transcendental aesthetic' does not consider past, present and future as determinations of time, although he uses them in the cosmological reflection of whether temporal series is bounded or boundless" (Düsing, 1980, p. 5; my translation) ("Es fällt auf, daß Kant in der transzendente Ästhetik Vergangenheit, Gegenwart und Zukunft als Bestimmungen der Zeit nicht in Erwägung zieht, obwohl er sie der kosmologischen Überlegung, ob die Zeitreihe endlich oder unendlich sei, verwendet").

[13] The text reads: "apprehension, merely by means of sensation, fills only an instant (if I do not take into consideration the succession of many sensations)" (Kant, 1998, A167/209).

[14] This example presupposes that the color of the leaf is totally uniform and without spots, so that the entire leaf has the same color.

[15] Heidegger links the synthesis of apprehension to the present, the synthesis of reproduction to past, and the synthesis of recognition to future: "if time is now the threefold-unified whole made up of present, past, and future, and if Kant now adds a third mode to both modes of synthesis which have now been shown to be time-forming, and if finally all representing including thought is to be subject to time, then this third mode of synthesis must 'form' the future" (Heidegger, 1990, p. 128).

[16] However, Kant points out that time and space are *quanta continua*, inasmuch as one part of them cannot be given without being limited by spatiotemporal boundaries, so that there are not (spatiotemporal) gaps among those parts in experience. Time is exclusively constituted by times, that is, instants which serve as boundaries "within" one boundless time. However, those boundaries do not exist by themselves, independently of us or of our intuitions but, on the contrary, they presuppose intuitions, insofar as they are nothing else but determinations of our intuitions, which can only take place at instants of time (1998, A169/B211). In fact, he underlines that the representations of space and time are generated through both the synthesis of apprehension of the manifold in intuition and the synthesis of reproduction of the apprehended manifold in imagination (1998, A99-102).

[17] Kant stresses that continuity is the property of the magnitude by which its parts are not the smallest, wherein it would disappear, but small enough without losing its reality (i.e. filling one time) (1998, A169/B211).

[18] Kant uses the expression 'empty time' (*leere Zeit*) when he refers to time as separated from any empirical content (1998, A143/B182, A172/B214, A188/B231, etc.). As a result, if the manifold of the appearances were removed from time, time would be neither simultaneous nor successive but just an empty form of intuition that cannot be perceived as object. I am in agreement with G. Schrader as he claims "space and time are nothing in themselves. Apart from the matter of sensation of which they are forms space and time would be nothing. The variable content of sensation is just as necessary for the possibility of experience as are space and time" (Schrader, 1951, p. 519).

[19] Kant defines the Analogies of Experience as "principles of the determination of the existence of appearances in time, in accordance with all three of its modi: that of the relation to time itself, as a magnitude (the magnitude of existence, i.e., duration); that of the relation in time, as a series (one after another); and finally that in time as a sum of all existence (simultaneous)" (1998, A215/B262).

[20] Melnick rightly suggests that "the view of time that emerges from the First Analogy may be called a substance-based theory of time. As opposed to a relational theory among events or an absolute theory of moments, time is fundamentally the duration (lastingness, persistence) of reality. The basic mode of the past is the-past-of-S- where S is a substance" (Melnick, 1989, p. 72).

[21] Substance is also the substratum of the empirical representation of time, in as much as Kant claims that time remains and does not change, for is that in which all change takes place (1998, A182-3/B224-6).

[22] Kant distinguishes between productive and reproductive imagination. The first one is a faculty of the original presentation of the object, which not only precedes but also makes possible experience and conditions space and time. The second one, by contrast, is concerned with a derivative presentation of empirical objects (Kant, 2007, Ak 7:167; 1998, A120 footnote, B152). He emphasizes the cognitive role of productive imagination in experience as he holds that "the imagination is a necessary ingredient of perception itself" (1998, A120 footnote; on this point see also Matherne (2015); Hanna (2005) and Waxman (1991). Furthermore, Heidegger (1990) suggests that the transcendental power of imagination is the root of sensibility and understanding.

[23] With regard to this point, Kant emphatically claims: "we have to do only with our representations; how things in themselves may be (without regard to representations through which they affect us) is entirely beyond our cognitive sphere" (1998, A190/B235).

[24] Indeed, time itself cannot be given in intuition as an object of experience, for time is not a determined element of intuition but a determining one that renders possible every empirical intuition (Kant, 1998, A183/B226, A182/B225, A37/B54 footnote, A32/B49, A37/B53-4).

[25] "The relation of substances in which the one contains determinations the ground of which is contained in the other is the relation of influence, and, if the latter reciprocally contains the ground of the determinations of the former, it is the relation of community or interaction" (1998, B257-8/A210).

[26] One might think a different example, say, the event "I have been bitten by a dog"; in this event the perceptions of the leg (A), the blood (B), the wound (C), and the pain (D) will occur at the same instant, if I focus on each of them in any direction.

[27] The text reads: "the rule of the understanding, through which alone the existence of appearances can acquire synthetic unity in temporal relations, determines the position of each of them in time, thus a priori and validly for each and every time" (CPR A215/B262).

[28] The core of this law was expressed by Leibniz as he holds in *Principles of Nature and Grace* that "the present is pregnant with the future; the future can be read in the past; the distant is expressed in the approximate" (Leibniz, 1989, §§ I3). A similar idea can be found in A. Schopenhauer's reflection on time: "in time each moment is, only in so far as it has effaced its father the preceding moment, to be again effaced just as quickly itself. Past and future (apart from the consequences of their content) are as empty and unreal as any dream; but present is only the boundary between the two, having neither extension nor duration" (Schopenhauer, 1969, p. 7).

[29] The unity of empirical intuition is formed either through space or time, for the mind intuit itself through inner sense whose form is not space but time alone (1998, A22-3/B37).

[30] Kant holds: "this a priori necessity also grounds the possibility of apodictic principles of relations of time, or axioms of time in general. It has only one dimension: different times are not simultaneous, but successive" (1998, A31/B47). However, it is not completely clear whether the propositions "time has only one dimension" and "different times are not simultaneous but one after the other" form one or two axioms of time. Hans Vaihinger (1892) suggests, for instance, that these are two axioms, whereas Gustav Bellermand (1889) holds that they are at the end only one.

[31] As he puts it: "if it is a necessary law of our sensibility, thus a formal condition of all perceptions, that the preceding time necessarily determines the following time (in that

I cannot arrive at the following time except by passing through the preceding one), then it is also an indispensable law of the empirical representation of the temporal series that the appearances of the past time determine every existence in the following time, and that these, as occurrences, do not take place except insofar as the former determine their existence in time, i.e., establish it in accordance with a rule" (1998, A199/B244).

[32] According to Kant empirical anticipations are like predispositions grounded on the memory of the recurrences of a past event rather than scientific, rational cognition: "empirical foresight is the anticipation of similar cases (*expectatio casuum similium*) and requires no rational knowledge of causes and effects, but only the remembering of observed events as they commonly follow one another, and repeated experiences produce an aptitude for it" (Ak 7:186).

[33] Kant in different places admits the relation between sensibility in general and the tensed-temporal relation of present. For instance, in *Anthropology* Mrongovius he asserts that "the mental powers should be divided in an orderly fashion into those directed at the present, that is, the senses" (Kant, 2012, Ak 25:1277). Afterwards, he claims: "the entire power of cognition, with regard to time, is: 1. with regard to the past, recollection 2. with regard to the present, sensation through senses and 3. prevision or foresight" (2012, Ak 25: 1289). In *Anthropology* Busolt he says that "there are three faculties of the mind, which are arranged according to time and all of them belong to the field of sensibility. Senses aim at present time" (Kant, 1900ff., Ak 25:1471; my translation) ("Es giebt drey Vermögen des Gemüths, die auf die Zeit Gestellt sind, und alle zum Felde der Sinnlichkeit Gehören. Die Sinne gehen auf die gegenwärtigen Zeit").

[34] Kant also confesses this impossibility in *Metaphysik L*, where he claims: "although a future item makes no impression in me and thus no image, but rather only a present item does, one can still make in advance an image of future items, and imagine something in advance" (Kant, 1997, Ak 28:236). It means that a future representation would belong to our imagination rather than to our sensibility.

[35] Kant suggests that the causal relations attributed to experience are not grounded on a mere "regularity", as Hume believed (Hume, 1739/1978), but on necessity and universality which is grounded on the a priori synthesis of the empirical manifold through the concepts of pure understanding, transcendental schemata and their corresponding principles of application (1998, A196/B241, A227/B280).

[36] Time is not an object of the experience but a subjective form of our intuitions which cannot be detached from our existence as human beings, namely, it cannot persist after we die. A similar interpretation is suggested by L. Friedman who claims about time that "it is contingent in just the way that consciousness is contingent. There need not have been any time if there were no consciousness, or rather no possibility of consciousness, i.e., no existence. Both are brute fact but necessarily interconnected" (Friedman, 1953, p. 385).

[37] For instance, if one goes for a walk in a Russian park during the winter, one intuitively successively the path through which is walking and no future "intuition" of a coconut palm in Cuba can be located among the present intuitions corresponding to the path (except in the form of a memory or through a technological device that gives an "indirect" reference to the object).

Author notes

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