Russell and Wittgenstein on time and memory: two different uses of the cinematographic metaphor

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Introduction

The *Laterna Magica* is probably the oldest metaphor in Wittgenstein's philosophical work. He conceived it in 1911, used it frequently from 1929 to 1936, and last used it on August 7, 1949.

According to Bouwsma, the metaphor first occurred to Wittgenstein in 1911 when talking to Frege about Descartes' *cogito, ergo sum* (1986, pp. 12–13). The last use of this metaphor is also linked to Descartes, when Wittgenstein criticised Bouwsma for approaching Descartes' philosophy in the wrong way, and used the metaphor to illustrate the backdrop of Descartes' *cogito*. Yet, the metaphor was frequently seen only during his middle period. From 1929 to 1933 (from MS 105 to the BT), he used the metaphor to demonstrate the difference between the temporal structure of immediate experience and "physicalist homogeneous time" ("*homogenen physikalischen Zeit*" [cf. MS 105, p. 114])[1].

Russell, on the other hand, took the metaphor from Henri Bergson (chapter IV of *Creative Evolution* [1911]). Russell's use of the metaphor is part of a lengthy quarrel with Bergson. Bergson used the metaphor to show that "our ordinary knowledge is of a cinematographical kind" (1911, p. 332). Instead of dealing with the *inner becoming of things*, our intellects take "snapshots" of passing reality and recomposes their becoming *artificially*. Russell subverted

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1   In this paper I will use the traditional abbreviations of Wittgenstein's and Russell's works. The list of abbreviations is included at the end of this paper.

Bergson's approach, arguing (as part of his enthronement of Zeno against the Aristotelian notion of substance) that reality is in itself of a cinematographical kind.

My aim in this paper is not to investigate the Cartesian heritage of Wittgenstein's use of the metaphor, or the Bergsonian aspect of Russell's. Instead, my objective is to place Wittgenstein's and Russell's use of this metaphor against the background of their respective philosophies. I will focus on Russell's philosophy from 1912 to 1919 (especially his constructivist period [1914–1919]) and Wittgenstein's middle period (1929–1933). This paper demonstrates that the key element of both of these uses is time. Specifically, I reconstruct their concepts of time and deal with the important roles that they grant to memory in relation to time.

Although many broad similarities can be found, with careful examination some remarkable differences can be seen. My final objective is to show that Russell and Wittgenstein used the metaphor inverting its ontological status.

Russell's theory of change

First I address some fundamental ideas that can be used as guidelines to put into perspective the development of Russell's philosophy of time.

Russell's ideas about time are directly linked to his concept of change. In the *Principles of Mathematics* (PoM), he states his wish to "set forth a theory of change which may be called *static*, since it allows the justice of Zeno's remark [the arrow argument]" [italics added] (1903, §332).[2] For Russell, the paradox is "a very plain statement of a very elementary fact, and its neglect has, I think, caused the quagmire in which the philosophy of change has long been immersed" (1903, §332). According to him:

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2   The quotations from the PoM are related to the paragraphs of the book. Zeno's remark addressed by Russell is, "If everything is in rest or in motion in a space equal to itself, and if what moves is always in the instant, the arrow in its flight is immovable" (RUSSELL, 1903, pp. 355-356). Aristotle's version of the paradox appears in Physics VI 9, 239b5-9: "If everything when it occupies an equal space is at rest, and if that which is in locomotion is always in a now, the flying arrow is therefore motionless". Aristotle's famous answer is that "This is false; for time is not composed of indivisible nows any more than any other magnitude is composed of indivisibles" (ARISTOTLE, 1991 p. 110).

The only point where Zeno probably erred was in inferring (if he did infer) that, because there is no change, therefore the world must be in the same state at one time as at another. (1903, §327)

As seen below, Russell's concept of change is based on the difference between how the world is at one time and at another. I suggest that Russell's three different theories of time (developed throughout his life) can also be called *static*, since they would allow the justice of Zeno's remark.

Russell presents his *static* theory of change in the PoM from a logical perspective, treating predicates as relations to parts of time. According to him:

The notion of change has been much obscured by the doctrine of substance, by the distinction between a thing's nature and its external relations, and by the pre-eminence of subject-predicate propositions. It has been supposed that a thing could, in some way, be different and yet the same: that though predicates define a thing, yet it may have different predicates at different times…. Change, in this metaphysical sense, I do not at all admit. The so-called predicates of a term are mostly derived from relations to other terms; *change is due, ultimately, to the fact that many terms have relations to some parts of time which they do not have to others*. But every term is eternal, timeless and immutable; the relations it may have to parts of time are equally immutable [italics added]. (1903, §443)

Russell`s crusade is against the Aristotelian notion that the occurrence of change requires a substance that exists through time, having different predicates at different times (in other words, that a thing changes if it maintains its *essential* properties and loses or gains *accidental* ones). Instead, Russell treats predicates as *relations* to some parts of time. For example, John having the predicate of being skinny (*Sa*) would in fact be a relation that John has to a certain time $S(a,t)$—John is skinny at *t*.

For Russell, temporal determinations are not indexicals (such as now, today, tomorrow, present, future, past, etc.), but dates.[3] According to him, "in order to express explicitly the whole

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3   As seen in the following sections, in an absolute concept of time dates are a way of naming the positions of the temporal series.

of what is meant, it is necessary to add the date, and then the statement is no longer 'variable', but always true or always false" (1906, p. 256). Frege (1956) also supports this idea, stating that, "only a sentence supplemented by a time-indication [a date] and complete in every respect expresses a thought" (p.309). Both authors wished to avoid the notion that a proposition could change its truth-value. If I say today that "the sky is cloudy" and it is true, and if I say it tomorrow and it is false, the truth-value of the *proposition* has not changed; there are instead two propositions (two different thoughts, with different contents).

The invariance of the truth-value of the proposition can be achieved in two different ways. The time in which the sentence is *tokened* should be treated as part of the content of the thought, and it is necessary to make this explicit in order to have a proposition. In this case, the verb temporally used in the initial sentence should be replaced by an atemporal correspondent followed by a date. The other way is to translate the temporal indexicals into dates. The outcome of this is that, if a proposition is true, it "is true not only today or tomorrow but timelessly" (FREGE, 1956, p. 303). Thus, if it is said that "John *is* skinny" (using the verb temporally) or "John is skinny *now*" (using an indexical and the verb temporally), the proposition expressed is that "John is skinny at (07/03/2014)" (using the verb *to be* atemporally).

However, if every term is eternal, timeless, and immutable and the relations to parts of time are equally immutable, in which sense could Russell's theory account for *change*? How could something timeless change? Russell coined his famous definition of change in the PoM:

> Change is the difference, in respect of truth or falsehood, between a proposition concerning an entity and a time T and a proposition concerning the same entity and another time T', provided that the two propositions differ only by the fact that T occurs in the one where T' occurs in the other. (1903, §442)

There is change if a two-place predicate is true for the ordered pair <x;T1> and false for <x;T2> (or vice-versa).

McTaggart (1927) famously argued against this definition of change, stating that, in an ontology constituted by events, there is no change if John is skinny at T1 and not skinny at T2.

There are two events ordered by the static relations of *before* and *after* (and these relations will hold sempiternally between those two events) (cf. MCTAGGART, 1927, pp. 13–14). Even if we accept an ontology of objects, there would not be change since the object will always have one quality at onetime and the other quality at another time. For McTaggart, the only possible change is that each event:

> (…) was once an event in the far future. It became every moment an event in the nearer future. At last it was present. Then it became past, and will always remain past, though every moment it becomes further and further past. (1927, p. 13).

Russell gives up the idea that *dynamic* temporal predicates (like *past*, *present*, and *future*) are necessary for change, because, for him, they do not belong to time itself, but only in relation to a knowing subject (I return to this point below). These predicates are part of the way humans experience the static temporal order of reality.[4] According to Russell:

> In a world in which there was no experience there would be no past, present, or future, but there might well be earlier and later. (TK, p. 64)

Traditional terminology used in contemporary philosophy of time can clarify Russell's concept. According to McTaggart (1908), positions in time appear in two distinctive 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 series of positions running from the far past through the near past to the present, and then from the present to the near future and the far future, as the A series. The series of positions which runs from earlier to later I shall call the B series. (p. 458)

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4   A point to be noticed is that McTaggart also supports that pastness, presentness, and futurity cannot be characteristics of reality. The problem is that they are incompatible predicates "but every event has them all" (1927, p. 20) (generating the paradox). McTaggart differs from Russell in that he regards those characteristics to be necessary conditions of time and change. If they lead to a contradiction, time must be unreal. Russell, on the other hand, holds that pastness, presentness, and futurity are not necessary conditions of time and change.

The main difference between these two series is that temporal relations are permanent in the B-series and transient in the A series. "If M is ever earlier than N, it is always earlier. But an event, which is now present, was future and will be past" (idem).

To support a "B-theory of time" is to accept that the series of positions that forms reality is ordered by the permanent relations of succession, and to deny that pastness, presentness, and futurity are properties or relations of reality itself. Russell is the *locus classicus* of B-theories. According to McTaggart (1927):

> The first is involved in the view of time which has been taken by Mr Russell, according to which past, present, and future do not belong to time *per se*, but only in relation to a knowing subject…. If there were no consciousness, there would be events which were earlier and later than others, but nothing would be in any sense past, present, or future. (pp. 13-14)

Russell's concept is also called "*eternalism*" or the "*tenseless theory of time*".

I suggest that the tenseless aspect of Russell's philosophy is a common thread running through his three different philosophies of time. I also suggest that, at least until 1919, the Aristotelian notion of substance continued to be the archenemy of his philosophy of change. These elements can be found in his use of the cinematographic metaphor.

THE ABSOLUTE AND THE RELATIONAL THEORY OF TIME

Over the course of his life, Russell set forth at least three different theories of time. All of these could be called *static* and have a common starting point:

> With regard to time, I assume that there is some definite series whose relations are temporal, *i.e.*, some series such that any two of its terms are either simultaneous, or are one before and the other after. (RUSSELL, 1901, p. 294).

Russell always upheld the idea that time is a *series* ordered through the relations of *succession* (priority and posteriority) and *simultaneity*. The changes in his philosophy of time were due to changes regarding the *primitive elements* of the time series.

Russell's first philosophy of time was developed in 1897, during his neo-Hegelian period. In this period he supported a *relational theory* of time, in which physical space and time have no ultimate reality (cf. HAGER, 1994, p. 132). (This paper does not address this concept).

Russell's second philosophy of time is an *absolute* theory, developed from 1899 to 1912. This theory of time is also called "Platonist", since, in this period, he divided reality into two realms: *i)* the world of being (a realm of abstract entities) and *ii)* the world of existence (a realm of fleeting, vague entities without sharp boundaries) (cf. PoP, p. 100). From 1899 to 1912, he changed the range of entities that populate the world of being. With the development of the theory of description, denoting concepts, propositions, and classes would gradually disappear from the world of being. In the PoP (1912) only universals would remain in the platonic realm.

In the PoM, time is treated as a one-dimensional series composed of *instants*. The absolute (and also Platonist) element is the commitment to the existence of *instants*.[5] This allowed Russell to uphold two classes of primitive entities: *i)* those that are positions (the "instants") and *ii)* those that have positions (called "qualities") (PoM, §440). The positions form an intrinsic order (a self-sufficient series) ordered by the relation of succession.

To comprehend what Russell regards, in this absolute theory, as an *event*, it is crucial to understand the Platonist aspect of his treatment of universals. Universals have being, but not existence. Instances of the universal have existence and are *at a time*. An *event* is a complex term formed by a *quality* (an instantiation of a universal) *at a time*. Thus, every instance of a particular quality can be taken as a relation of a quality to a certain instant (cf. RUSSELL, 1901, p. 294).

The static aspect of this philosophy of time is that instants will be changeless terms, instantiating unchanging and independent serial relations (cf. HAGER, 1994, p. 136). In other words, as mentioned above, the positions of the temporal series will hold sempiternally (if an instant is before or after another instant, it was, it is, and it will always be before or after the other instant). Nothing changes in the usual sense of acquiring or losing properties, or coming into being or out of existence.

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5   "Among terms which appear to exist, there are, we may say, four great classes: (1) instants, (2) points, (3) terms which occupy instants but not points, (4) terms which occupy both points and instants" (PoM, §438).

From 1913 to 1918, Russell developed a new relational theory of time. According to this theory, time is still regarded as a series ordered by the relations of *succession* and *simultaneity*. Nevertheless, the primitive elements of the time series are different; there is only one class of primitive entities: *events*. Instants, according to this new concept, "are not among the data of experience" (OKEW, p. 93) and are *logical constructions* from the order of events. Time is the series of events ordered by the relations of simultaneity, priority, and posteriority. Any two events has one and only one of three simple temporal relations (before, after, and simultaneity).

With regard to this theory, Russell developed a concept of instant as a *set of all and only simultaneous events* (I return to this point below). An instant is the shortest event in a series of overlapping events. This is called the *overlapping method* and it is developed in OKEW.

This concept has two important outcomes. Russell avoided the traditional problem of the infinite divisibility of time by maintaining that each momentary entity lasts for a very brief period, though probably not for a mere *mathematical instant*. As he stated, "Events of which we are conscious do not last merely for a mathematical instant, but always for some finite time, however short" (OKEW, p. 93). Those events (that last for some finite time, however short) are the elements used in the *overlapping method* for the construction of the instant: "take a group of events of which any two overlap, so that there is some time, however short, when they all exist…. Let us define this whole group as an instant of time" (OKEW, p. 95).

Time is the series of instants, constructed from overlapping events and ordered by the relations of *before* and *after*. In this case, events are the primitive elements and instants are *logical constructions*.

The other outcome is that dates can no longer be treated as names that name *positions* of the temporal series: "we cannot give what may be called absolute dates, but only dates determined by events. We cannot point to a time itself, but only to some event occurring at that time" (OKEW, p. 94).

Before turning to the details of this concept, which is one of the focuses of this paper, it is important to notice how the treatment of properties as relations to times has very deep metaphysical and ontological consequence from the point of view of the metaphysics of change.

The fragmentation of identity and the cinematographic metaphor

This paper focuses on Russell's relational theory of time from 1914 to 1919, during his constructivist period. Yet, it is important to notice how his treatment of cinematographic metaphor still formed part of his earlier *endurantist* concept of change.

In his concept of time from 1899 to 1912, since properties of an entity are relations to a time, the entity would be different at different times, even if the two temporal determinations were the only differences. The metaphysical and ontological price to pay for his static theory of change is the *fragmentation of the identity* of the entity throughout time. In other words: there can be no persisting entity throughout time, but only series of temporally atomised entities. Known as *endurantism*, this concept denies that things have temporal parts (cf. ZIMMER-MAN, 1998, pp. 206–219). Things are conceived as wholly present at the different times in which they exist.

Russell was still willing to pay this metaphysical price during his constructivist period, as can be seen in his use of the cinematographic metaphor taken from Bergson in the article from UCM (1915), which reads:

> When, in a picture palace, we see a man rolling down hill, or running away from the police, or falling into a river, or doing any of those other things to which men in such places are addicted, we know that there is not really only one man moving, but a succession of films, each with a different momentary man. The illusion of persistence arises only through the approach to continuity in the series of momentary men. Now what I wish to suggest is that in this respect the cinema is a better metaphysician than common sense, physics, or philosophy. *The real man too, I believe*, however the police may swear to his identity, *is really a series of momentary men, each different one from the other, and bound together, not by a numerical identity, but by continuity and certain intrinsic causal laws*. And what applies to men applies equally to tables and chairs, the sun, moon and stars. Each of these is to be regarded, *not as one single persistent entity, but as a series of entities succeeding each other in time*, each lasting for a very brief period, though probably not for a mere mathematical instant [italics added]. (pp. 99–100)

Here Russell is still trying (13 years after the PoM) to set forth a theory of change that may be called *static*, since it allows the justice of Zeno's remark. Each momentary man would be as

static as Zeno's arrows. He also eliminates the metaphysical burden of notion of a perduring substance. According to him, in the UCM, it is an error "the belief that what is physical must be persistent" (p. 128). He also accepts the steep metaphysical consequence of denying the *numerical identity* of the entities at different times. Each entity is *not* one single persistent entity, but a series of numerically distinct entities succeeding each other in time. Thus, the John who is skinny at T1 and the John who is not skinny at T2 are not numerically identical, but bound together by spatial and temporal continuity and certain intrinsic causal laws.

Russell explicitly accepts that he is applying to time the same kind of division that, according to him, can be attributed to space:

> In saying this I am only urging the same kind of division in time as we are accustomed to acknowledge in the case of space. A body which fills a cubic foot will be admitted to consist of many smaller bodies, each occupying only a very tiny volume; similarly a thing which persists for an hour is to be regarded as composed of many things of less duration. A true theory of matter requires a division of things into time-corpuscles as well as into space-corpuscles. (UCM, p. 129)

To understand the details of his use of the cinematographic metaphor, it is important to distinguish between what he calls in 1915 "mental time" and "physical time". Mental time is represented in the metaphor by the screen and physical time by the film.

Mental time is the time that arises through the relations of *subject* and *object*. Past, present, and future are relations in mental time, since they are relations of subject and object. Mental time is not the time of reality; it is the way we experience it.

Mental time is only possible because of *immediate memory*. According to Russell in TK:

> We will give the name "immediate memory" to the relation which we have to an object which has recently been a sense-datum, but is now felt as past, though still given *in acquaintance*. It is essential that the object of immediate memory should be, at least in part, identical with the object previously given in sense, since otherwise immediate memory would not give acquaintance with what is past, and would not serve to account for our knowledge of the past [italics added]. (p. 73)

This memory of the recent past is a primitive constituent of experience. Without it, according to Russell, the word "past" would have no significance (cf. TK, pp.72–73). Through immediate memory we can become acquainted with particular observed in the recent past and "in such cases memory must be not liable to error" (TK, p.72).

Immediate memory is distinct from *remote paradigmatic memory*. Russell's theory of *remote memory* varied significantly between 1912 and 1919. *Remote memory* "takes over the limit of the range of immediate memory" and, at least according to Russell around 1911 and 1912, it acquaints us with particulars observed in the *remote past* (PEARS, 1975, pp. 224–233). According to Russell:

> (…) it is natural to say that I am acquainted with an object even at moments when it is not actually before my mind, provided *it has been before my mind*, and will be again whenever occasion arises [italics added].(KAKD, p. 210)

To Faria (2010), this clearly shows that "acquaintance is not wedded *to presence*" (p. 165); an object of acquaintance may be "in the present, in the past, or not in time at all" (RUSSELL, 1914, p. 127).

In Russell's concept of remote memory formulated around 1911–1912, memory is a form of *remote acquaintance*, in which we have direct access to particulars that have been before our minds. This concept rejects the traditional idea of memory as *representation* and grants to remote memory a form of incorrigibility. As expressed in PoP: "Thus the essence of memory is not constituted by the image, but by having immediately before the mind an object which is recognized as past" (p. 115).

Perrin (2012) calls this conception "direct naïf realism" (p.12). In this case, according to him, memorial judgments should also show the type of incorrigibility specific to perceptual judgments (cf. 2012, p. 13). We can thus conclude that, at least in 1911 and 1912, both immediate and remote memory should be not liable to error.

Yet if remote memory is not liable to error, how can false memories be accounted for? Russell was forced to acknowledge that "cases of fallacious memory can probably all be … shown to be not cases of memory in the strict sense at all" (PoP, p. 117). False memories are not, strictly speaking, memories.

Faria, in his paper from 2010, argues that the treatment of remote memory as *retained acquaintance* fails to accomplish the task ascribed to knowledge by acquaintance. Knowledge by acquaintance should guarantee that the subject that entertains a thought about something knows what it is he is thinking about (Evans calls this "Russell's Principle"[1982, chapter IV]). According to Faria (2010), "it is a necessary condition for a subject *S* to think about an object *a* that *S* be in a position to tell *a* from other objects" (p. 165). In other words, the subject must be in a position to incorrigibly discriminate that object from all other things. Remote memory fails to do that because it is possible to have memories that are in fact from different objects, and to regard mistakenly those memories as from the same object. Thus, memory cannot incorrigibly discriminate the object given through memory from all other things.[6]

Russell gradually abandoned this concept of remote memory, giving it up entirely in his monist period (after 1921) during which he treated memory as a *present image* accompanied of the feeling of pastness (cf. AoM, p. 96). According to this view, only immediate memory remains as a form of acquaintance with past objects.

I now set aside mental-time and return to the cinematographic metaphor.

For Russell, the cinema is a better metaphysician than common sense, physics, or philosophy because it shows how the time of reality (*physical time*) is actually structured. Physical time is the time that arises through the relations of *object* and *object*. According to the metaphor, physical time is the series of ordered time-corpuscles through the asymmetrical transitive relations of before and after (in the same fashion as the photograms on the film).

Entities arranged in physical time through the relations of before and after Russell calls "particulars". What is distinctive about this concept of time is that, "the particulars are to be conceived, not on the analogy of bricks in a building, but rather on the analogy of notes in a symphony" (UCM, pp. 129–130).

In this analogy, the symphony plays the role of the film in the cinematographic metaphor. The common feature of the metaphor and analogy is that the particulars are regarded as

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6   This seems to me a much better reason for the abandonment of memory as *retained acquaintance* than Paul Hager's argument that this abandonment would be motivated by the fact that immediate memory would be sufficient for the construction of the time series (HAGER, 1994, p. 145).

momentary entities scattered throughout time like the photograms on a film or the notes in a symphony. These particulars are not persisting entities but momentary ones; "Just as the ultimate constituents of a symphony are the notes which are momentary and fleeting, the ultimate constituents of physical objects are also fleeting and momentary" (MIAH, 2006, p. 129).

This temporal aspect of the particulars is an important element of Russell's treatment of "this" as the only *proper name*. For Russell, the demonstrative is a proper name that applies directly to just one *momentary object*, without describing it. "This" is a proper name applied to the object to which I am *now* attending (in the screen) (cf. TK, chapters I–II). Thus, it is not possible to know any particular thing unless it is part of the present experience (on the screen). Nevertheless, this particular disappears into the past with the passage of time, like a photogram already projected of a film or a note already played in a symphony.

For Russell, the priority of physical time over mental time can be expressed in the way that present, past, and future (A-series predicates in McTaggart's terminology) are defined in terms of simultaneity, earlier, and later (B-series relations). Russell's starting point is the proper name "this":

> The subject attending to "this" is called "I", and the time of the things which have to "I" the relation of presence is called the present time. "This" is the point from which the whole process starts, and "this" itself is not defined, but simply given. (TK, p. 40)

The present time is the time simultaneous with "this"; an event that is *earlier* than the whole of the present is called past, and an event that is *later* than the whole of the present is called future. The momentary particular is the entity named in the present by the demonstrative.

Sense-data as physical entities:

One crucial aspect of Russell's constructivist period is that the particulars that are arranged in physical time through the relations of before and after are *sense-data*. To comprehend how Russell treated sense-data as the particulars that can be signified by proper names it is important to notice the status granted to these data.

Surprisingly, Russell did *not* conceive of sense-data as mental entities. A mind is not a necessary condition for a sense-datum; only a *body* is necessary. According to Russell (especially his work from 1914 and 1915 [RDP and UCM]), sense-data are *physical entities* and the constituents of the *physical world*. He stated, "I believe that the actual data in sensation, the immediate objects of sight or touch or hearing, are extra-mental, purely physical, and among the ultimate constituents of matter" (UCM, p. 128).

Since these objects are not mental, he conceived them as logically independent of perception (cf. RSDP, p. 145).

On the other hand, *sensations* through which sense-data are known are mental. Sensation is a form of acquaintance with particulars in the present time (in the *specious present* [cf. TK, pp. 64–66]) - in other words, sensation is the complex "act-acquainted-with-object" (cf. NSD, p. 77). Yet, the sense-data perceived in sensation are themselves *extra-mental*. This allowed Russell to talk about sense-data not perceived by anyone. Those sense-data that are not data to any mind Russell calls "sensibilia" (cf. RSDP, p. 142).

At first sight, the idea of sensibilia (unperceived sense-data) seems to go against the following Russellian *motto* of the constructivist period: "Whenever possible, substitute constructions out of known entities for inferences to unknown entities" (LA, p.326). The point to be noticed is that unperceived sense-data are not inferred unknown entities, in the sense criticized by Russell. To infer unperceived sense-data from perceived sense-data is what Ayer calls "horizontal inference"—in which the inferred entity is of the same sort as the ones with which we are acquainted (cf. AYER, 1972, pp. 34, 77; MIAH, 2006, pp. 115–116). Russell wished to avoid "vertical inferences" in which the inferred entity is *not* known by acquaintance and *cannot* be known by acquaintance. This kind of "vertical inference" was present in his philosophy during the period in which he regarded physical objects as the *cause* of sensations. In his constructivist period, Russell applied *Occam's razor* to those unobservable entities inferred by vertical inference, stating that "entities are not to be multiplied without necessity" (OKEW, p. 107).

These elements were important for his later concept of time, because sense-data (perceived, unperceived, and possible sense-data of other bodies) are the momentary particular entities ordered in physical time. It is clear, therefore, that it would be a mistake to regard Russell's

constructivist period as a form of phenomenalism. Only *sensations* are phenomena. Sense-data and sensibilia are physical *extra-mental* entities.

These three categories (sense-datum, sensibilia, and sensation) can be distributed in relation to the cinematographic metaphor. Sensations are the constituents of the screen (in which the particulars are given to us). The film would be a series of extra-mental sensibilia and sense-data. Although a sense-datum can only be named when given in sensation (in the *specious present*—in the screen) the extra-mental sense-data and sensibilia are the basic entities reached by analysis.

Another possible way of exploring the cinematographic metaphor is through the distinction between *perspective space* and a *single perspective*. According to Russell:

> The system consisting of all views of the universe perceived and unperceived, I shall call the system of "perspectives"; I shall confine the expression "private worlds" to such views of the universe as are actually perceived. Thus a "private world" is a perceived "perspective"; but there may be any number of unperceived perspectives (OKEW, p.88).

A private world is a *single perspective*, in which a subject is presently acquainted, through sensation, with particulars (sense-data). The universe comprises all perceived and unperceived perspectives, forming a "system of perspectives". Each single perspective is a viewpoint located inside this one all-embracing perspective space (cf. OKEW, p. 72). A single perspective is "all the sensibilia in one sense modality of which a percipient could be aware at one time" (MIAH, 2006, p. 131). In this case, appearance would be a sub-class of reality (cf. HAGER, 1994, pp. 161–162). This means that each single perspective is located *at* a place and *at* a time inside the perspective space. The relation to the metaphor is that the screen is a *single perspective*. The film, on the other hand, represents the system of "points of view", of all possible single perspectives.

These conclusions can be translated in temporal terms. Mental-time is a single temporal perspective, located inside physical time. Physical time is an all-embracing time constructed out of single temporal perspectives. Yet, how might the idea of a physical time be constructed out of sense-data?

In his constructivist period, Russell started from the idea that *instants* are *logical constructions* out of events. As mentioned above, events are not strictly instantaneous. Furthermore,

events overlap each other when they are not wholly before or after each other. An instant is regarded as a class of all events that completely overlaps each other (MIAH, 2006, p.168). The advantage of this method is that, "proceeding in this way, by taking more and more events, a new event which is dated as simultaneous with all of them becomes gradually more and more accurately dated" (OKEW, p. 118).

Time can thus be regarded as a series of instants (ordered by the succession and simultaneity), without the need for the Platonist/absolute assumption of the "superfluous metaphysical entities" called "instants" (OKEW, p. 117).[7] This is also a departure from the assumption of *absolute dates* that point to time itself, naming every single position. Dates can only be given in relation to events.

The construction of physical objects

As seen in the cinematographic metaphor, Russell conceived of persistent entities, which we ordinarily call "physical objects", as series of momentary sense-data, in the same way as the image of a persistent entity on the cinema screen is a series of momentary entities on the film. As mentioned before, this is part of his crusade against the Aristotelian notion of *substance*. According to Russell, to get rid of the obscure doctrine of substance, "it is only necessary to take our ordinary common-sense statements and reword them without the assumption of permanent substance" (OKEW, p. 106). This is achieved through the idea that an ordinary physical object is "a logical construction from *sense-data* [italics added]" (OKEW, p. 101).

It is crucial to notice that his starting point of this construction is not *sensation*, but the extra-mental *sense-data* (encompassing perceived and unperceived sensibilia). This means that, "we must include in our definition of a "thing" those of its aspects, if any, which are not observed" (OKEW, p. 110). Therefore, a momentary state of a thing is not only an aspect given in sensation, but also a whole set of aspects (including aspects unperceived and perceived by other subjects).

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7   Arthur Prior (although he is the *locus classicus* of the A-theory) also conceives instants as artificial entities, stating, "remember that what lies behind it is the belief that 'instants' are artificial entities anyhow, i.e. that all talk which appears to be about them, and about the 'time-series' which they are supposed to constitute, is just disguised talk about what is and has been and will be the case" (1968, pp. 122–123).

From a temporal point of view, the crucial element of Russell's concept is that the unity of the *successive* appearances is not a given, but a *logical construction*. As he states, "Starting from a world of helter-skelter sense-data, we wish to collect them into series, each of which can be regarded as consisting of the successive appearances of one 'thing'" (OKEW, p. 107). This concept eliminates the Aristotelian notion of *substance*, since each thing is not conceived as "one single persistent entity, but as a series of entities succeeding each other in time". In other words, "to say that a certain aspect is an aspect of a certain thing will merely mean that it is one of those which, taken serially, are the thing" (OKEW, p. 112). At each moment the "thing" is the whole set of sense-data (perceived and unperceived) commonly said to be "of the thing". However, according to Russell, the "thing" is just a "piece of gratuitous metaphysics" (OKEW, p. 106).

Yet, if the thing is not a single persistent entity but a series of *numerically distinct* sense-data, why regard those data as part of the same thing? Russell states this problem in the following terms: "By what principles shall we select certain data from the chaos, and call them all appearances of the same thing?" (OKEW, p. 86).

Similarity between the appearances and spatial-temporal continuity are important criteria; yet, they are not sufficient. Similar appearances may not be of the same thing and continuity is problematic since physical objects are not continuously given to conscience. According to Russell, a further law is needed connecting events at different times. This connection is achieved through the use of "causal laws", present in what he calls "physical laws" (cf. OKEW, p. 109). According to Russell:

> (…) physics has found it empirically possible to collect sense-data into series, each series being regarded as belonging to one "thing", and behaving, with regard to the laws of physics, in a way in which series not belonging to one thing would in general not behave. (OKEW, p. 110)

This is why for Russell "things are those series of aspects which obey the laws of physics" (OKEW, p. 110). The importance of causality and the laws of physics is that they "render all sense-data calculable from a sufficient collection of data all belonging to a given period of time" (idem).

Russell also uses the expressions "logical fictions" and "symbolic fictions" (UCM, p. 124) to describe the idea of a "logical construction". This suggests that physical objects are not real, but *fictional* entities. Nevertheless, according to Sajahan Miah:

> When [Russell] says that a physical object, such as a table, is replaced by a logical construction he is not claiming that the table itself, if there is one, is a fiction or non-existent. Rather, he seems to suggest that whenever we use the word 'table' we should understand that it stands for a construction out of sets of sense-data….What he wants to show is that an object is analyzable exclusively in terms of what is known to be real. (2006, p. 118)

What is known to be real is the series of sense-data, *vertically inferred* from the sense-data with which we are acquainted in sensation.

It could thus be concluded that, in the terms of the cinematographic metaphor, the film is what is real. The screen is simply a single perspective through which the particulars are given to a subject. In temporal terms, the screen is the subjective mental-time and the film is the temporal order of reality.

Wittgenstein's use of the *Laterna Magica* metaphor

During Wittgenstein's middle period, he first used the *Laterna Magica* metaphor in MS 105 to express an asymmetry between the temporal structure of the facts of immediate experience and the facts of physics:

> If I compare the facts of immediate experience with the pictures on the screen and the facts of physics with pictures in the film strip, on the film strip there is a present picture and past and future pictures. But on the screen, there is only the present. (PR, §51, p. 84–86/)

To understand this asymmetry it is crucial to notice that for Wittgenstein the world was not composed of physical facts. The world we live in is the world of immediate experience (called the "primary world" (cf. PR, §69). Talking about physical objects and facts is simply a more practical mode of presentation than the phenomenological description:

> Again, let us not forget that the physical language, too, only describes the primary world and not a hypothetical world. The hypothesis is only an assumption about the most practical/ most suitable ?/ mode of presentation. (MS 105, p. 108)[8]

This same relation between a primary phenomenological world and a *constructed* secondary physicalist mode of presentation is at play in Wittgenstein's concept of time. The time of reality is the time of immediate experience (the temporal structure of the screen). The time of the facts of physics (the temporal structure of the film) is the *construction* of a secondary physicalist mode of temporal presentation.

Wittgenstein used a transcendental argument to express a very important aspect of the time of immediate experience. According to him, the possibility of constructing a secondary temporal system reveals something about the primary system:

> […] that from these present data a 2nd temporal system can be constructed says something about the 1st temporal system and what it says can be expressed in those words: the 1st system is *temporally ordered* [italics added]. (MS 105, p. 86–88)

In other words, without a primary temporal order, no secondary temporal order could ever be constructed. Thus, since we do have a secondary temporal order (physical time), it is necessary that the primary system be temporally ordered.

This renders Wittgenstein's use of the metaphor a part of the actual relation between the film and the screen. According to Wittgenstein's use, the image on the screen is not *caused* by the film. The film is a *mode of presentation* of the reality given on the screen.

Yet, how might the present data of immediate experience be temporally ordered in such a way that a secondary temporal system can be constructed from it? As noted before, "on the screen, there is only the present" (MS pp. 84–86/PR, §51).

Wittgenstein, like Russell, attributed distinctive roles to memory. Wittgenstein seemed to accept a form of immediate memory, which is the source of the primary temporal order. In MS 105, he asks, "In which experience lays the foundation of the concept of time, the assumption of

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8   Passages from the manuscripts not translated into English in his published books I have translated myself.

a time?" (p.98). Wittgenstein's answer to this question can be understood as the starting point of an explanation of his concept of memory as the *source of time*. The experience that lays the foundation of the concept of time "is a continuous perception from which the present is the final point and which can also be called in a broader sense memory" (MS 105, p. 98).

Without this broader sense of memory, the phenomenological reality would shrink to a point-like present ("*punktartige Gegenwart*"), temporally detached from other moments in time, where no idea of a *temporal order* or *temporal flux* would be conceivable (cf. MS 105, p. 98). Wittgenstein illustrates this broader sense of memory, as a continuous perception by addressing the temporality of immediate experience using William James's expression "*specious present*" (also used by Russell).[9]

The broader sense of memory can be regarded as the experience that lays the foundation of the concept of time, since it is from the continuity of perception that the *order* of *before* and *after* originates. It is only possible to know whether a phenomenon was *before* or *after* another phenomenon if the two phenomena are *contiguous*. This is also tied to the role of memory as the *source of identity*. There can only be *before* and *after* if something ceases to be and something else comes into being. To be able to perceive change, however, it is a necessary condition to have the memory of *what* has ceased to be and the perception of *what* has come into being.

Wittgenstein calls the order of our memories the "*1st temporal system*", stating that "the data of our memory are ordered; we call this order memory-time, as opposed to physical time, the order of events in the physical world" (BT, §105, p. 364).

In conversations with the Vienna Circle he expressed this idea in even stronger terms, saying, "My memories are ordered. *Time is the way memories are ordered*. Thus time is given in immediate connection with memories. Time is, as it were, the form in which I have memories" (WVC, p. 98).

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9   Cf. MS 105, p. 114/PR, §69 ; MS 113, p. 123/BT, §102, p. 351. One important point of departure between Wittgenstein's and James' use of the expression «*specious present*" is that, for Wittgenstein, the idea that the "present" of immediate experience is measurable, as in James (cf. 1918, p. 613) it is a confusion between things that are in time, with time as the logical form of motion (cf. PR, §52). According to Wittgenstein, the *specious present* contains time, but it is not in time—in other words, "Its form is time, but it has no place in time" (PR, §69). Therefore, the specious present cannot be a "*temporal space*" (measurable) since it is not something that is in time (cf. BT, §105, p. 363).

It is due to this role played by memory in the primary temporal system that Wittgenstein calls it "memory-time" and treats memory as the "source of time" (cf. MS 108, p.33/PB, §49b). In this case, memory is not "a psychological ability, but a particular part of the logical structure of our world" (BT §102, p. 351).

Wittgenstein's treatment of remote memory has some similarities with Russell's from 1911–1912, but includes a very important development. The main difference between these authors is that Wittgenstein drew a distinction between memory in memory-time and in physical time. Regarding memory of phenomena, Wittgenstein also rejected the traditional idea of memory as *representation* (coming closer to Russell's concept from 1911–1912), but he maintained the status of representation to memories of physical facts:

> For 'time' has one meaning when we regard memory as the source of time, and another when we regard it as a picture preserved from a past event.
>
> If we take memory as a picture, then it's a picture of a physical event. The picture fades, and I notice how it has faded when I compare it with other evidence of what happened. In this case, memory is not the source of time, but a more or less reliable custodian of what 'actually' happened; and this is something we can know about in other ways, a physical event.—It's quite different if we now take memory to be the source of time. Here it isn't a picture, and cannot fade either—not in the sense in which a picture fades, becoming an ever less faithful representation of its object. Both ways of talking are in order, and are equally legitimate, but cannot be mixed together. (PR, §49)

In the primary system, not only is the order of our memories the temporal order of immediate experience, but the content of our memories is the only way the past is given in immediate experience. Thus, when memory is regarded as the *source of time*, it cannot be a *picture* (a representation) because there is no way of separating past phenomena from our memories of past phenomena.

This is similar to Russell's concept from 1911–1912, since Wittgenstein also accepted a form of "direct naïf realism". Memorial judgments of phenomena should also show the type of incorrigibility specific to perceptual judgments. Wittgenstein goes as far as treating this kind of memory as a "*perception into the past*":

Yet it contradicts every concept of physical time that I should have *perception into the past*, and that again seems to mean nothing else than that the concept of time in the first system must be radically different from that in physics [italics added]. (MS 105, p. 96/PB, §50)

Since *perception into the past* is possible in the first system, Wittgenstein treated memory in this system as "the source of our knowledge, [and] the verification of our propositions" (PR, §49), as well as the "source of the concepts of the past and of identity" (PR, §19).

On the other hand, the past in physical-time is independent of our memories in such a way that memories of physical events can be conceived as pictures (representations) that can be compared *with other evidence of what happened*. The past physical event is *something we can know about in other ways*.

This will set apart the status of memory in memory-time and in physical time:

If I can verify a temporal specification - e.g. such and such was earlier than so and so - only by means of memory, "time" must have a different meaning from the case where I can verify such a specification by other means, e.g. by reading a document, or by asking someone, and so forth….Memory as the *source* and memories that can be verified in a different way must equally be kept apart. (WVC, p. 53)

The possibility of *perceiving the past* in memory-time allows the use of memory as the *truth-maker* of a proposition about past phenomena. In this case, "I can verify a temporal speci-fication…only by means of memory" (idem). However, in the secondary system the past is inde-pendent of memory, in such a way that memory itself can be verified "by reading a document, or by asking someone, and so forth" (idem). This allowed Wittgenstein to treat memories of physi-cal facts as representations. In this case, memory is not "a particular part of the logical structure of our world", but a "more or less reliable custodian of what 'actually' happened" (PR, §49).

Hintikka was one of the first to notice the consequences of the relation between memory and past in the primary system. According to him, "for such phenomenological objects there are no criteria of identity through time except memory" (1996, p. 244). This use of memory as the *source of identity* turns the phenomena into ideal candidates for the role of what determines the logical multiplicity of the complete analysed language.

Although in Wittgenstein's middle period immediate experience had the form of a flux (MS 107, p. 159), the content of what was given to us could never fade away since primary memory was thought of as *perception in to the past*. Another important aspect is that, since the identity of the phenomena was a point beyond dispute when Wittgenstein regarded memory as the *source* of identity, one of the central issues of his later philosophy—that of rule-following—could not arise (at least as far as the phenomena were concerned). When faced with the question, "What guarantees that I will be able to apply in the future the word 'red'?", Wittgenstein would probably have answered in 1929–1930, "By recognizing it again" (PR, §16).

As mentioned before, without the primary temporal order no secondary time could ever be constructed. There would be nothing from which to construct a secondary temporal order. However, Wittgenstein did not explain in detail how a secondary time is constructed from the order of our memories. In the §102 of the BT, Wittgenstein wrote that, in physical time, we "translate the temporal relationships into spatial ones" (p. 353). The only temporal relationships *given* to us in immediate experience are the succession of phenomena, which is the order of our memories. This may suggest that in the construction of a physical time we translate the order of *before* and *after* (the way memories are ordered) into spatial relations. Ramsey (2006) explores this same idea in his manuscript on time, written around 1928-9. According to him, in physical time we translate the *temporal* transitive, asymmetrical, non-reflexive relations of *before* and *after* into spatial transitive, asymmetrical, non-reflexive relations of "to the left of" or "to the right of" (p.158). But this would lead to a problem:

> The defect of this method is that their time order is replaced by a space order, which does not share its "sense"; the difference between "before" and "after" is lost. (2006, p. 157)

The difference between "before" and "after" is lost because the spacialised series does not have an intrinsic direction and becomes reversible.[10] The film in the metaphor would be the spacialised series. In a film strip, what is before and what is after depends on the direction in which the film is run. The film by itself does not have an intrinsic direction. Thus, the physical order of events is only a temporal series (ordered by the relations of *before* and *after*) if it runs over the present. This also determines which events are future and which ones are past.

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10   McTaggart (1927) also deals with a similar problem, since without an A-series the B-series would become a C-series (which is an order without an intrinsic direction).

Another central element in Wittgenstein's use of the cinematographic metaphor in MS 105 is the asymmetry between phenomenological time and physical time regarding the future. In memory-time there is only what is immediately given and the ordered data in memory of what has already been given. Thus, according to him:

> Memory-time. It (like visual space) is not a part of time in the larger sense, but is the specific order of events or situations in memory. *In this time there is no future* [italics added]. (BT, §105, p. 365)

But that is different in physical time:

> If one says that the future is already pre-formed, then this obviously means: the pictures on the strip of film that correspond to the future events on the screen already exist. But there just aren't any such pictures for what I'll be doing in an hour, and if there are, then once again we mustn't confuse the pictures on the future part of the film strip with the future events on the screen. Only of the former can we say that they are pre-formed, i.e. that they already exist now. (BT, §105, p. 364)

In memory-time, there is no future, that is, there are no pictures for what I'll be doing in an hour. Only in the physical system does the future appear as pre-formed, in such a way that we could say that the future events *already exist now*.

Although this asymmetry between physical and phenomenological time is not an ontological asymmetry (since physical time is just a *mode of presentation*), in physical time we represent in a *synchronic* way the order of what has been given to us *successively* in experience. Thus, we regard the future as *pre-formed* and the past as *still existent*. It is this *still* existence of the past that allows the separations between memory and past in physical time. This distinction is a logical one and has important consequences for the grammar of those concepts of time:

> Of course, the difference between memory-time and physical time is a logical difference. That is, the two orders could perfectly well be called by completely different names, and one only calls both of them "time" because there's a certain grammatical relationship. (BT, §105, p. 365)

Physical objects, induction and genuine propositions

The temporal difference between memory-time and physical time can also be seen in the way that physical objects are conceived as *hypothetical forms* applied to phenomena.

> Particular aspects are what is changing and unstable; it is the form of the connection of aspects that is unaltered and remains. That unaltered connection is signified by *one* word. (WVC, p. 257)

The physical object is an enduring *form* applied to immediate experience that subsumes the phenomenological changes given in memory-time. According to Wittgenstein, the unaltered form results from the application of a *hypotheses* to a series of phenomena. He states that, "the concept of an object involves an hypothesis, for we assume as an hypothesis that the particular aspects we perceive are connected in a *law-governed manner* [italics added]" (WVC, p. 256).

The laws that govern the hypothetical form are the same laws that can be expressed in mathematical form, in what we call the "*laws of physics*" (cf.WVC, p. 255).

In PR §225, Wittgenstein retraces this idea to a very simple one that, according to him, comes straight from reality. We never see a table. We only see one side of it. In phenomenological terms, what we have in our visual field is the occurrence, for example, of an oblong. Over time the dimensions and colours of this geometric figure may vary significantly. What is hypothetical is the way we connect all these changing phenomenological aspects (given successively in memory-times) into an enduring form that we call "table". The object is the hypothetical form used to bring the multiplicity of phenomenological experiences into a unity. And it is the way we can signify „*by one word*" the multiplicity of phenomena through the use of hypotheses that makes hypothetical physicalist languages a more *practical* mode of presentation than the phenomenological description of experience.

The idea that, through the use of a hypothesis, phenomena are connected in a *law-governed manner* was a central element of Wittgenstein's concept of *genuine proposition* from the middle period.

When I say, "All the different pictures I see belong to one object, say, to a table", that means that I connect the seen pictures by means of a hypothetically assumed law. On the basis of that law from given pictures I can derive new pictures. (WVC, p. 256)

In other words, a hypothesis is also "a law for forming expectations" (MS 107, p. 283/PR, §228). For Wittgenstein, the phenomenological *expectations* derived from the use of the hypothesis are the paradigmatic case for understanding *genuine propositions*. Genuine propositions are *pictures* of phenomena that we *expect* to find in immediate experience. For example, from the hypothetical sentence "the ball is on the table" we can *expect* (from the use of the hypotheses of "ball" and "table") to find in our visual field a circle (located in a certain place, with a certain radius, and of a certain colour) and a square (located in a certain place, with a certain dimension, and of a certain colour). This *picture* bridges the gap between the physicalist world of our ordinary/hypothetical language and the phenomenological reality (in memory-time) that verifies it.

Wittgenstein and Russell on the cinematographic metaphor

From a temporal point of view, there are many parallels between Wittgenstein's middle period and Russell's philosophy from 1913 to 1919. Russell's concept of mental-time is very similar to Wittgenstein's memory-time. For both authors, immediate memory is a necessary condition for this concept of time. Especially from 1911 to 1912, Russell's concepts of remote memory appeared very close to Wittgenstein's refusal to regard the memories of phenomena as representation. Both contrasted mental-time and memory-time with physical time. In addition, Russell's constructivist concept of physical objects is very similar to Wittgenstein's idea that a physical object is a hypothetical law applied to phenomena.

Despite these similarities, there are also remarkable differences. The cinematographic metaphor can be used to articulate those differences. Of these, the most striking is the inversion of the ontological status of the metaphor.

For Russell, the temporal structure of reality was the series of particulars (sensed and unsensed sense-data) ordered by the relations of *succession* and *simultaneity*. These particulars are momentary "extra-mental, purely physical" entities (arranged in time as the notes of a sym-

phony). Thus, in contrast to Wittgenstein's middle period, Russell's constructivist philosophy was not the development of a phenomenological philosophy. In the terms of the metaphor, for Russell, the temporal structure of reality was the film, composed by the momentary photograms. The temporal flux (the change from future, to present, and to past) is the way we experience this static temporal order of reality. Past, present, and future are simply relations of subject and object. Yet, as noted above, "in a world in which there was no experience there would be no past, present, or future [mental-time], but there might well be earlier and later [physical-time]" (TK, p. 64). Thus, for Russell, even without the screen, there may well be the film.

From a Wittgensteinian perspective, it could be said that Russell was deceived by a grammatical mirage. To regard the film as reality is to attribute to the secondary system (a *construction* of our language) the ontological status of the primary (confusing the status of the screen and the film). For Wittgenstein, the phenomenological reality is the screen, and the film is just a mode of presentation.[11]

In PR §52, Wittgenstein makes a criticism that might be understood as addressed to Russell's use of the metaphor:

> The feeling we have is that the present disappears into the past without our being able to prevent it. And here we are obviously using the picture of a film strip remorselessly moving past us, that we are unable to stop. But it is of course just as clear that the picture is misapplied.

This misapplication regards the temporal flux as the movement of photograms on the film from the future, to the present and to the past, just like a film that remorselessly moves past us. For Wittgenstein, this is a misapplication because the idea of pre-formed entities in the future that become present and disappear into the past are the result of the application of hypotheses to immediate experience and the construction of a physical mode of temporal presentation, which treats time as a synchronic order. For Wittgenstein, the temporal flux is the phenomenological changes on the screen (in memory-time).

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11   Although this paper does not focus on the contrast with Bergson, it is interesting to notice that Wittgenstein uses this metaphor in a similar way to Bergson.

Abbreviations

Works by Bertrand Russell:

KAKD - "Knowledge by Acquaintance and Knowledge by Description" (1910). References are to *Mysticism and Logic*.

LA - "Logical Atomism" (1924). References are to *Logic and Knowledge: Essays 1901–50*.

NSD - "The Nature of Sense-Data" (1913)

OKEW - *Our Knowledge of the External World* (1914). Quotations and page citations are from the 2009 edition.

PoM - *The Principles of Mathematics* (1903).

PoP - *The Problems of Philosophy* (1912). Quotations and page citations are from the 1959 edition by Oxford University Press.

RSDP - "The Relation of Sense-data to Physics" (1914). References are to *Mysticism and Logic*.

TK - *Theory of Knowledge: The 1913 Manuscript* (1913). Quotations and page citations are from the 1984 edition.

UCM - "The Ultimate Constituents of Matter" (1915). References are to *Mysticism and Logic*.

Works by Ludwig Wittgenstein:

MS - *Manuscript* from the Bergen Electronic Edition (1989)

TS - *Typoscript* from the Bergen Electronic Edition (1989)

PR - *Philosophical Remarks* (1975)

BT - *The Big Typescript* (2005)

WVC - *Wittgenstein and the Vienna Circle* (Waismann [1979])

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RESUMO

O objetivo deste artigo é explorar os usos de Wittgenstein e de Russell da metáfora cinematográfica. Wittgenstein utilizou a metáfora frequentemente durante o período intermediário (1929-1933). Russell a usou em um artigo de 1915. Situarei o uso de Russell em relação a sua filosofia de 1912-1919 (em especial, durante o período construtivista (1914-1919)) e o de Wittgenstein em relação a sua filosofia do período intermediário. Como será visto ao longo do artigo, o aspecto temporal é o elemento central da metáfora. Buscarei reconstruir os conceitos de tempo por eles mobilizados e explorarei os diferentes estatutos concedidos à memória, como condição de possibilidade do tempo da experiência imediata. Embora seja possível localizar várias semelhanças entre esses autores, veremos também algumas diferenças cruciais. O principal elemento que buscarei expor através dessa análise é a maneira como Russell e Wittgenstein concebem de forma inversa o estatuto ontológico da metáfora.

Palavras-chave*: tempo da memória, tempo mental, tempo físico, memória remota e imediata, fenome-nologia.*

ABSTRACT

The aim of this paper is to explore Wittgenstein's and Russell's use of the cinematographic metaphor. Wittgenstein used the metaphor frequently during his middle period (1929–1933). Russell used it in a paper from 1915. I place their uses of this metaphor against the background of Russell's philosophy from 1912 to 1919 (especially his constructivist period from 1914 to 1919) and Wittgenstein's middle period. As demonstrated throughout this paper, time is the key element of both uses. I reconstruct their concepts of time and deal with the important roles attributed to memory in relation to time. Although many similarities can be found, with careful examination some remarkable differences can be seen. The cinematographic metaphor can be used as a starting point to articulate those differences. My final objective is to show how Russell and Wittgenstein used the metaphor inverting its ontological status.

Keywords: mental-time, memory-time, physical-time, remote and immediate memory, phenomenology.

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