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How Long Does the Present Last? The Problem of Fissuration in Roman Ingarden's Ontology

Abstract: In the philosophy of time the standard view on the present holds that it has no duration. The classic proponent of this view, St Augustine, claims that the present is the blade of a knife separating the future from the past. Despite its dominant position, this view might be questioned on both phenomenological and ontological grounds. An interesting attempt at accounting for the duration of the present can be found in Roman Ingarden's analyses of temporal being. In his ontology Ingarden discerned two features that characterize present temporal objects – activeness and fissuration. The former outlines a distinctive quality of present temporal objects – their "fullness of being": a complete qualitative determination and efficaciousness. The latter portrays a limitation to activeness – the actual, effective existence of temporal objects is restricted to their present being, it is only a "fissure" between the past and the future. But according to Ingarden this fissure might vary for different objects, which raises a question concerning the duration of the present. In this article, I point to some motifs that led to entertaining the possibility of a certain duration of the present – a non-zero value of the fissure. I also investigate the relation between the duration of the present of objects existing in time and their ontological structure. In the conclusion, I propose an outline of an ontological theory of relativity of the duration of the present inspired by Ingarden's analyses.

Keywords: Ingarden, time, fissuration, specious present, duration, eternity.

Because the following introductory remarks aim mainly at explaining basic problems of Ingarden's ontology, the readers already familiar with these topics might skip over it and proceed to section 1 – "Temporality and existential moments".[1]

1 Daniel von Wachter's article "Roman Ingarden's Ontology: Existential Dependence, Substances, Ideas, and Other Things Empiricists Do Not Like" offers a "Europe-in-seven-days tour through

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Perhaps the most important Polish contribution to ontology is Roman Ingarden's *Controversy over the Existence of the World* (henceforth the *Controversy*). The title originates from Ingarden's disagreement with Edmund Husserl's transcendental idealism and suggests that the book is devoted to a particular debate. But, in fact, the *Controversy* presents Ingarden's original account on almost all fundamental ontological problems, and thus it might be called the modern "summa of ontology". The language of Ingarden's considerations might seem a bit exotic, but his analyses are deeply rooted in the continental tradition and have also some features of analytic ontology.[2]

According to Ingarden, ontology is an *a priori* field of study of pure possibilities. Ontology understood this way has some resemblance to mathematics and is set against fields of study that investigate facts such as metaphysics and the natural sciences. Ingarden divides ontology into three domains: existential, formal, and material. Existential-ontological problems concern the modes of being of objects (real, ideal, absolute, etc.); formal-ontological problems concern forms of objects (events, processes, objects enduring in time, etc.) and material-ontological problems concerning the material endowment of objects, their qualitative determination (Ingarden, 2013, 87–89). Existential ontology is a foundation of Ingarden's investigations. Its starts with an analysis of the notion of existence. According to Ingarden, analysis of the notion of existence is possible and reveals several *existential moments* – "elements" of modes of being. Existential moments "can be intuitively discerned and grasped in a mode of being by means of abstraction" (Ingarden, 2013, 108). In the first stage of his investigations (not with regard to the problem of temporality) Ingarden discerns four different pairs of opposing existential moments: 1) autonomy vs. heteronomy; 2) originality vs. derivativeness, 3) self-sufficiency vs. non-self-sufficiency, 4) independence vs. dependence (Ingarden, 2013, 109). Some combinations of these moments are contradictory (e.g. heteronomy and originality) (Ingarden, 2013, 155-156); the non-contradictory combinations of existential moments create a rich set of possible modes of being. The most important modes of being are absolute, real, ideal, and purely intentional.[3]

In the second phase of his investigations (that starts with chapter V of the *Controversy* – "Time and Modes of Being") Ingarden focuses on existential moments that characterise a temporal mode of being. All objects existing in time have

Ingarden's ontology" (Wachter, 2005). A detailed introduction to the *Controversy* in the context of Ingarden's polemics with Husserl might be found in Jeff Mitscherling's book "Roman's Ingarden Ontology and Aesthetics" (Mitscherling, 1996).

2 Cf., e.g., (Thomasson, 2017).

3 A good introduction to Ingarden's ontological "combinatorics" might be found in (Simons, 2005) and (Chrudzimski, 2015).

some imperfections – they cannot remain present (transience) and their present is always only a fissure between the two remaining domains of time – future and past. Inspired by some of Bergson's analysis, Ingarden entertains the hypothesis that different real objects have different relations to time – their ontological structure generates different values of fissuration. There are several problems that emerge from these considerations. The most important concerns the objective character of the duration of the present (non-zero fissure). From the phenomenological perspective such a "wide" present is a data of consciousness. But on ontological grounds one may ask if it is only a kind of illusion or is there an objective, real feature of certain objects? In the latter case, another fundamental problem arises – what is the relation between the structure of the object and its relation to time? These problems are rarely discussed but they are of high importance for the phenomenologically oriented ontology of time.

The structure of this article is as follows. In the first four sections, I present the relevant considerations of Ingarden. In section 1, I introduce Ingarden's notion of fissuration against the background of his ontology of temporal being. In sections 2–4, I present a hierarchy of objects (inanimate objects, living individuals, conscious objects, and absolute being) in each case demonstrating the peculiarities of their present. In section 5, I proceed to a more detailed analysis of the problem of the duration of the present – I analyse St. Augustine's theory as well as the theory of a *specious present*. In section 6, I analyse different arguments in favour of the non-zero span of the present – Ingarden's phenomenological "argument from Neon", Karl Popper's empirical argument and Bogdan Ogrodnik's argument linking the duration of the present and the formal complexity of the structure of objects. In this section, I also discuss a similar idea presented in Stanisław Lem's short novel "137 seconds". In the conclusion – section 7 – I present a generalisation of these considerations in the form of the ontological theory of the relativity of the duration of the present.

Temporality and Existential Moments

One of the main goals of Ingarden's ontology is to show the difference between the mode of being of purely intentional objects and the mode of being of real (temporal) objects. The crucial difference between these two modes of beings is that only the temporal mode of being is characterized by *Activeness* or *Aktualität*,[4]

4 Ger. *Aktualität*; Pol. Aktualność. In Arthur Szylewicz's translation of the *Controversy*, the term Activeness has been designated as the equivalent of German *Aktualität*, because the term *Actuality*

an existential moment which, according to Ingarden, is a certain perfection of an object. Activeness, in turn, may be subjected to further analysis, revealing such phenomena as fragility and fissuration. These phenomena are the sub-moments of activeness that reveal different aspects of its limitation. Whereas activeness is a kind of perfection of a temporal object, fragility and fissuration concern its imperfection: fragility determines the boundaries of the object's existence (persistence),[5] whereas fissuration determines the boundaries of its activeness.

The notion of fissuration appears in the *Controversy* in the discussion of the mode of being of the so-called *objects persisting in time* (OPT). Ingarden claims that these objects:

> exist during the *entire* time that they exist, but in accordance with the essence of time any given instance of their active being is always confined to only a *single* present moment beyond the bounds of which they can at no time reach. The activeness of their being spans at any particular time only a single – if we may put it that way – narrow fissure [*Spalte*]. Beyond it in the one direction there is the retroactively derived past being, and in the other the first intimations of the future being. This so to speak "fissure-like [*spaltartige*]" existence is characteristic of every temporally extended being, and of every persistent object in particular. (Ingarden, 2013, p. 274)

Ingarden introduces the notion of fissuration as a further characteristic of the activeness of temporal objects. The notion emphasizes the limitation of the activeness of temporal objects – its "narrowness" in comparison to non-active domains of past and future. Fissuration understood in this way is a derivative of transience, which, according to Ingarden, is based chiefly on

> the *constant* transformation of the being-active of what is present into this puzzling "no-longer-being-in-the-present," whereby it is nonetheless somehow sustained in being in the past, as something bygone [*Vergangenes*]. This transformation – comprising the innermost essence of temporality – is of course nothing accidental, but is essentially bound up with a certain deficiency of the entity existing in this fashion: namely, with its inability to persist in activeness, as it were, without succumbing to passage. (Ingarden, 2013, p. 239)

(a natural candidate for being an equivalent for *Aktualität*) has already been employed in this translation for *Wirklichkeit*, which cannot be identified with *Aktualität*. Szylewicz explains this decision in note 214 (Ingarden, 2013, p. 99). Hovewer, even if the term *Actuality* already plays a different role in the translation, the term *Effectiveness* might in some cases still seem better than *Activeness* as a translation of *Aktualität*.

5 Because the term persistence has been sometimes used to translate *Dauerhaftigkeit*, which is the opposite of fragility, to avoid possible misunderstanding let us note that *persistence* should be understood here as a temporal mode of being, which allows for the object to perish.

Based on the above we can define fissuration as a specific quality of a temporally determined being that renders it unable to last infinitely in the activeness phase, limiting activeness to one present only, which creates a fissure between non-actual being – on the one hand of the future, and on the other of the past. In his further considerations, Ingarden analyses fissuration in two contexts: 1) within the context of the mode of being of the OPT (living individuals overcoming fissuration, and especially the conscious ones) and 2) within the context of the mode of being of an absolute being. He does not examine closely the fissuration of processes and events, although fissuration is a part of their mode of existence.

The Differences Between Living Individuals and Inanimate Objects

Characterising the OPT mode of being, Ingarden observes living individuals, whose being is (up to the time of their death, conditioned by the fragility of their being) crossing the sphere of activeness of the ever new present. As Ingarden says:

> For living beings, however, there emerges against the background of the fissure-like mode of existence an essential modification that somehow enables the living being to transcend the activeness-fissure of any particular present, and that is because for such a being what has happened in the past makes its mark in an essentially different and more meaningful way on the structure [Ausgestaltung] of what "presently" exists than it does for "inanimate" things. (Ingarden, 2013, p. 274)

A significant difference between inanimate objects and living beings is that the former possess remnants from the past in form of a type of a multitude of qualities, which, from the "point of view" of this object are an effect of random impacts. As Ingarden notes: "For a living being meanwhile, what remains of its past makes up *meaningful* unity" (Ingarden, 2013, p. 275). A living being is characterised by "the 'ingenious' *mode of its reaction* to the assaults directed at its being – a mode that is characteristic for it, promotes the preservation of its life, and rebuilds its inner structure (in a way that is to some extent creative)" (Ingarden, 2013, p. 275). The relation between the phases of development of a living being and its defensive actions against the interference of the outside world that could breach its integrity "is expressed synthetically in the living being's active state and constitutes the *inner unity* of not only the total content of its *present* makeup, but also of its *entire temporally spread out* [*ausgespannten*] being" (Ingarden, 2013, p. 275). This inner unity of a living being (both synchronic and diachronic) increases the intensity of the retroactively derived past being of an individual, "and in this way elicits at least

the *semblance of an expansion* [*Ausweitung*] of *the activeness-phase* in the direction of the past" (Ingarden, 2013, p. 276). However, "The 'inanimate' thing deteriorates gradually, until some impact obliterates it completely. Thus the 'fissure-character [*Spalthaftigkeit*]' of its activeness is much more radical than in the case of the living being" (Ingarden, 2013, p. 277).

Therefore, although fragility and fissuration – the existential-ontological imperfections of a real being – are not overcome in the case of living beings, the inner structure of these beings, i.e. their formal-ontological qualification, elicits at least a seemingly "wider" fissuration. This last formulation is very significant – it suggests that the whole existence within the time of one being resembles a process consisting of phases, and one of these phases is activeness. The phase of activeness has a certain finite duration, which Ingarden calls fissuration. Assuming, following Ingarden's considerations, that the length of the activeness phase of a given being may be variable, the fissuration might have different values. Since activeness is the same as the present, the value of fissuration is then the period of the duration of the present. A question about the duration of the present is then a question about the value of fissuration.[6]

Conscious Subjects, Fragility and Fissuration

Ingarden, discussing another "borderline" OPT group, states that there is a category of living beings,

> in which the fissure-character of active being appears to be overcome in a quite pronounced measure, and in an especially distinctive manner: the beings that live consciously. [...] through their acts of recollection, retention, protention and expectation they can look out beyond the structure of their current present, and can at least in principle survey the whole course of their lives [...] They do so only "intentionally," but even this merely intentional, presumptive [vermeinende] intuiting and grasping of what exceeds the bounds of the current activeness-phase entails a jutting out above the uninterrupted lapse of time. (Ingarden, 2013, p. 277)

While the living individuals partially overcome fissuration by combining the histories of these individuals with activeness, for the conscious individuals this process of overcoming is two-sided, i.e. expanding the fissuration represents "looking" both ways – into the past as well as into the future. Consciousness opens a possi-

6 The maximum possible value of fissuration is determined by the boundaries of the duration of this object.

bility to additionally strengthen the inner unity of a living being, which, according to Ingarden, somehow reduces the fragility of its being.[7] Concluding his considerations on the specific hierarchy of real objects and their relation to time, Ingarden states that

> All temporally determined entities exist by passing through an ever new activeness-phase and they are unable to overcome the "fissure-character [*Spalthaftigkeit*]" of their existence even in the existentially highest form of conscious living beings. (Ingarden, 2013, pp. 279–280)

However, from the ontological point of view, we cannot exclude the existence of real objects, which are not human, yet overcoming the limitations of existence related to time in a more effective manner than people. Ingarden tends to use this reasoning when considering the mode of being of an absolute being, which can be treated as a continuation of the above-mentioned considerations on the hierarchy of real objects.

Fissuration Within the Context of the Modes of Being of an Absolute Being

Constructing the notion of an absolute being as a being existing in a timeless manner, Ingarden takes two possibilities into consideration: 1) absolute being which is characterized by activeness, durability and *non-fissuration*; 2) paradoxically imperfect absolute being, which is characterized by activeness, durability and *fissuration*.

Ingarden considers the following possibility

> whether the "fissurative character" of the being of what exists actively can be overcome by means of an unrestricted broadening of the span of the present, if we may put it that way. That this span is alterable only in admittedly very modest measure, is something we know from our daily experience – as Bergson has observed. But whether it is possible to broaden these relatively narrow bounds, and effectuate [*aktivieren*] being in such a way that activeness could encompass the collective past and the entire future – that is one of the deepest and most difficult problems of both existential and material ontology. (Ingarden, 2013, p. 290)

This problem is further related to the more general question of

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7 It is important to note that this reduction of fragility is an ontological phenomenon, not just *in intentione*, but also *in re*. In case of fragility, Ingarden's view opens a possibility for different interpretations. Taking into account Ingarden's remarks concerning non-fissuration, the ontological interpretation of fragility seems to be consistent with Ingarden's ontology.

> whether time is one and the same for all variants of individual being, or whether the variety of differently structured times are possible which would be characteristic for the various types of individual being – as Bergson argues. (Ingarden, 2013, p. 291)

Presenting Bergson's position, Ingarden states that while the tension of our duration

> may be subject to variation, there are incomparably larger variations of the rhythm of duration for different living beings, *resp*. varied principal types of reality. (Ingarden, 1922, p. 329; my translation – F.K.)

While considerations of fissuration within the context of the OPT mode of being, particularly on living and conscious beings, were mainly conducted based on phenomenological description, and the possibility of an apparent broadening of the span of the present was taken into account, the notion of possible absolute beings fissuration is perceived as a strictly ontological property, characterizing various beings to various extents, determining their degree of overcoming transience. Ingarden is certainly referring here to the theory of Bergson, who identified phenomenal changes in the span of the present and also assigned to different beings – placed on various levels of the hierarchy of real being – different "tensions of duration" (*tension de la durée*), the smallest in inanimate matter, then increasing in living, spiritual individuals and culminating in God. Thus Ingarden considers on the basis of the extrapolation of the phenomenal broadening of the span of the present and projection of this phenomenon onto a being outside the subject – certainly as a possibility only – a hierarchy of real beings, which are characterized by various values of fissuration.

The Problem of the Duration of the Present

The notion of fissuration generates interpretational difficulties. Firstly, they result from some inconsistencies in Ingarden, e.g. fissuration is treated once as a mode of being and another time as a part of a mode of being (existential moment), and yet another time as an existential sub-moment characterizing the moment of activeness. Transience is also sometimes treated as a mode of being by Ingarden. Such difficulties are relatively easy to overcome by consistently describing (in line with the spirit, however not the letter of Ingarden's text) fissuration as a sub-moment of activeness. A more difficult problem is posed by Ingarden's statement that overcoming fissuration is "at least apparent". It renders a possibility for fissuration to be interpreted in a phenomenalistic or ontological way. The notion of fissuration

itself is unclear, as it is in fact a metaphor (in the *Controversy* quotation marks are usually put around it). Further considerations then lead to presenting a coherent notion of fissuration, based mainly on Ingarden's ontology, as well as on studies of other philosophers.

Augustine's Theory of Time and the Problem of the Present

The key to explaining the problem of fissuration is to refer to the two fundamentally different ways of experiencing time defined by Ingarden, which generate two basic types of ontological theories of time. According to Ingarden, St. Augustine's theory of time is a theoretical consequence of experiencing time in this way, where the only existing domain of time – the present – is of a punctual nature. St. Augustine's theory of time, which is challenged by Ingarden, consists of two principal theses and a few complementing ones.

The first principal thesis of St. Augustine says that neither the past nor the future exist: "neither things to come nor past are" (Augustine, St., 2008, p. 125), only the present exists. In contemporary philosophy the view is called presentism[8]. Contrary to this theory, Ingarden puts forward an idea that past and future exist as well, however in a mode different from the present.

The second principal thesis of St. Augustine says that the present is devoid of any duration – it is a point or a cross-section, or, in a figurative way, it is the blade of a knife separating the future from the past.

> If an instant of time be conceived, which cannot be divided into the smallest particles of moments, that alone is it, which may be called present. Which yet flies with such speed from future to past, as not to be lengthened out with the least stay. For if it be, it is divided into past and future. The present hath no space. (Augustine, St., 2008, pp. 123–124)

This belief, which may be called the "zero" theory of the present, is countered by Ingarden with the idea that the present is not a point devoid of dimensions, but a specific time quantum. According to Ingarden temporal quanta

> marked-off from each other within the passage of time – without thereby comprising a temporal point or a time-interval. (Ingarden, 2013, p. 231)

The temporal present quantum is a counterpart to the fissure of activeness, and the sizes of the temporal quantum – the present moment – are the sought value of fissuration. Ingarden is a proponent of a non-zero duration of the present, not

8 Compare (Ingram & Tallant, 2018).

ascribing, however, any particular duration to the present, as if it were an interval in time. In Augustine's theory, there is this characteristic tension between the analysis of time as a tripartite structure of past-present-future, where only the present exists yet is devoid of duration, while *an experience* of the present is lasting and has a certain duration.[9]

St. Augustine solves this problem by employing the notion of the function of the mind,[10] and especially the memory: impressions of the mind triggered by the passing presents are kept by the mind, although their origins have passed. As we can keep the traces of the passing presents in our memory, we are able to measure time and understand the words heard, which would have been impossible if we had only perceived a series of non-enduring presents. When we hear an extended – in memory – sound, only its finishing bounds can be considered to be the punctual objective present.

The Theory of the Specious Present

This element of Augustine's theory has been discussed in the late 19th and 20th century under the name of the theory of the specious present. The term *specious present* serves as an explanation of such phenomena as hearing an enduring sound or seeing a falling meteor, which would be impossible if our consciousness of the present had a punctual character. The notion was introduced into philosophy by William James:

> the practically cognized present is no knife-edge, but a saddle-back, with a certain breadth of its own on which we sit perched, and from which we look in two directions of time [...]. We seem to feel the interval of time as a whole, with its two ends embedded in it. (James, 1890, pp. 609–610).

As it is usually assumed that in reality, the ontologically existing objective present is of a punctual character, the duration of the phenomenal present is treated only as a phenomenon, or appearance. We arrive then at the differentiation of the objective present, i.e. a strictly ontological category and the subjective or phenomenal present, thus a category, which is, first of all, epistemological.

9 The reality of the span of the present is compatible with experience. Traditional arguments supporting this idea refer to the perception of movement (and the impression of continuity when watching a moving picture in the cinema), understanding words and tunes.

10 The three functions of mind – expectation, consideration and memory – refer respectively to the future, present and past.

The nature of the objective present is an ontological problem, whereas the nature of the subjective present is primarily a psychological problem. Various results of empirical research on the duration of the subjective present lie within a range of a few milliseconds to several seconds. These studies however are controversial, as the notion of the subjective present in itself is not fully clear, likewise the interpretation of the results of these experiments. Let us now consider the relations between Ingarden's theory and the theory of the specious present. For that purpose we need to analyse the troublesome statement by Ingarden referring to the broadening of the span of the present. As this broadening is, according to Ingarden, at least specious, then it is certainly being experienced, and is thereby something subjective, but it can also be something objective, and thereby not merely experienced. By stating that a phenomenally given span of the present is *at least* specious, Ingarden voices his uncertainty regarding this "speciousness", or the merely phenomenal nature of this present. Ingarden tends towards this second possibility, however not all of his statements are unambiguous.

The Problem of Eternity and Absolute Being

Let us then go back to St. Augustine's theory of time. One of the remaining theses is the definition of eternity:

> But the present, should it always be present, and never pass into time past, verily it should not be time, but eternity. (Augustine, St., 2008, p. 123)

This notion is accepted by Ingarden, but he calls this eternity "non-fissuration". Paraphrasing St. Augustine, Ingarden could say: a non fissured activeness is not an activeness of a temporal being, but of a timeless or an absolute being. Let us then consider a divine perspective of perceiving the world in this context – it leads to the reverse of the theory of the specious present, which can be named the theory of the specious non-present (with the combined notion of the past and the future). As *sub specie aeternitatis* the entire history of the world is present in the present, and, indicating a point on the axis of time as the present is only related to the human epistemological perspective and has no basis in the ontic structure of the world. It is then something subjective, a delusion or appearance, but of an entirely different nature than in the case of the theory of the specious present.

In St. Augustine's theory we can locate the origin of two theories:

1. According to the "view from nowhere" (H. Price), regarding some present to be existing and negating the existence of the past and the future is a delusion which I shall call the specious non-present;

2. The view form a certain punctual now, which regards the experienced duration of the present as a delusion, a specious present.

Each perspective is related to some delusion concerning the present. The first theory is called eternalism, the second is called presentism. Ingarden rejects both of them, devising his own theory based on the plurality of the existence of the real being and the notion of fissuration. As this last element is not a fully developed notion, Ingarden's entire theory of time requires additional clarification. Later in this paper I will present three short arguments (one of which is Ingarden's) against the theory of the specious present and at the same time against the punctual interpretation of the present.

Arguments Supporting the Non-Zero Span of the Objective Present

The first group of arguments is focused on determining whether it is possible to pass from this certain time span of the subjective present to the span of the objective present. According to Ingarden, the subjective present, which is non-punctual, is a certain part of the real world, thus there is a certain part of the world where the extended present does exist.

Ingarden's Phenomenological Argument ("Argument From Neon")

The argument might be structured as follows:
1. The lighting up of a sequence of bulbs appropriately ordered in space and time can give the illusion of a continuous movement of one lamp
2. this illusion succeeds only because a *continuous* process plays itself out physiologically and psychologically
3. thus what is past as such, though it has ceased to be strictly active, retains a peculiar way of being (Ingarden, 2013, p. 238).

According to Ingarden, the argument supports a way of experiencing time according to which "what is past and what is future also exist in some way" (Ingarden, 2013, p. 231), and time-instants are peculiar temporal quanta. There are psychological phenomena that are at the same time both real beings and continuous processes, not multiplications of punctual events. These processes include the stream of

consciousness as well as the conscious experiences of which that stream consists. It is important in this context that the argument supports the possibility of a non-punctual present, at least within the framework of the concrete time of the knowing subject, and thus a certain real element of the world.

It does, however, seem that in order to resolve the problem of the relation between experienced time and objective time an analysis of acts of consciousness must be carried out. According to Ingarden, each act of consciousness is a certain process, a constituent in a stream of consciousness. Since Ingarden in the end includes the stream of consciousness within the structure of the real world, there appears to arise another problem concerning the possible carrier of the stream of consciousness and all of the separate acts of consciousness. The proponent of the zero present theory might argue that although the content of the act of consciousness relates to some process extended in time, the material carrier of this act of consciousness can be found in the objective present devoid of duration. Notwithstanding the resolution of this problem, a more promising way of defending the non-zero objective present is to refer directly to non-psychological phenomena.

Popper's Empirical Argument

The other group consists of arguments stating that the non-punctual, extended present is mind-independent and occurs in the physical world. These arguments are presented by the philosophy of nature or philosophy of the natural sciences and are based on the interpretation of certain physical phenomena. Karl Popper claims that the present is non-punctual in this respect. In his *Objective Knowledge*, when debating Kant's intuitionism, he claims that the intuition of time can yield to changes and serve as a function of, e.g. language, worldview and relevant theories. According to Popper:

> While particle physics suggests a razor-like unextended instant, a "punctum temporis", which divides the past from the future, and thus a time co-ordinate consisting of (a continuum of) unextended instants, and a world whose "state" may be given for any such unextended instant, the situation in optics is very different. [...] there are temporally extended events (waves possessing frequencies), whose parts co-operate over a considerable distance of time. Thus owing to optics, *there cannot be in physics a state of the world at an instant of time*. [...] what has been called the specious present of psychology is neither specious nor confined to psychology, but is genuine and occurs already in physics. (Popper, 1989, p. 135)

Ogrodnik's Formal-Ontological Account

The third group of arguments indicating the non-zero nature of the present are the ontological arguments. Having identified the value of fissuration with the size of the present temporal quantum we might now focus on the theory of Bogdan Ogrodnik, which is a further analysis and at the same time a modification of Ingarden's ontology. By employing the notion of the temporal quantum, Ogrodnik in fact expands the theory of fissuration, although he does not use this term in his considerations. Ogrodnik develops an expanded ontological theory, allowing for a formal-ontological grounding of various values of fissuration. The course of his argument can be summarized as follows: The past and the future can jointly be named the non-present. For a given object *X* one might distinguish its absolute and relative non-present. The former refers only to its concrete time, while the relative non-present refers to a hierarchy of concrete times. In a derivatively individual object, one might distinguish the hierarchy of this object's parts belonging to various structural levels and the corresponding hierarchy of concrete times. Each of the concrete times has the same structure, i.e. it consists of quanta. Ogrodnik claims:

> Quantum of the concrete time of the higher order contains quanta (at least one) of the concrete time of the lower order. (Ogrodnik, 1995, p. 113)

The consequence of the above consists of:

> Taking into account the hierarchical structure of the real world, as a result we obtain a whole series of present and non-present "immersed" in each other – until we reach the present of the object of the highest order (provided that such an object exists at all), which is the Universe. (Ogrodnik, 1995, p. 114)

The quantum of the present of the object of the higher order is larger than the quantum of the present of the object of the lower order. In other words, the value of fissuration of the real object depends on the complexity of its structure, and its place in the hierarchy of real beings. The non-fissuration being can be found at the top of this hierarchy.

> Existence of the relative non-present of concrete time of the object of a lower order is guaranteed by the existence of the "quantum" – the present moment of concrete time, which belongs to the object of a higher order. [...] The non-present of a given real object is "placed" between the present of this object and the present of the object of a higher order. (Ogrodnik, 1995, p. 113).

Arguably, in the case of an object of a higher order, its material constitution can determine the value of the fissuration of its concrete time. By adapting these theses Ogrodnik modifies the theory of Ingarden which claims that the past and the future are non-active beings. According to Ogrodnik, the non-present is non-active only within a given real object, but it maintains its activeness within the present of the objects of the higher orders, containing this object. The theory of Ogrodnik then, clearly indicates the primacy of the objects of the higher order. The modification only applies to the mode of being of the non-present, as Ogrodnik accepts Ingarden's account of the mode of being of the present.

A Notion of Fissuration in Lem

Stanisław Lem's short story *One Hundred and Thirty-Seven Seconds* portrays a theory of the present that resembles Ingarden's theory, and is possibly inspired by it. The main character in the story, an agency journalist serendipitously discovers that the computer he is working on renders a factual report of events, even though it is disconnected from the teleprinter transmitting current information. As a result of simple experiments it turns out that despite being disconnected from the teleprinter, which transmitted the initial part of the message, the computer comes to a standstill for a short time, and then renders – without errors – the remaining part of the message for the exact duration of 137 seconds. Within this period of time it knows everything about this event, however a second later it knows nothing. For instance, it provides exact information on the result of casting dice, but only if they are cast no later than 137 seconds from posing the "question" about the result of the throw. As it turns out, the situation only occurs when the computer is connected to the federal IT network. Within these 137 seconds, the computer exploits several dozen percent of the whole network's potential. The first idea when attempting to explain this phenomenon is that the computer uses the performance power of the network to predict the results of experiments. It is then something of a Laplace's demon. However, it turns out that it is a false hypothesis, and the phenomenon is correctly explained by the physicist named Hart.

> He said that the computer cannot indeed predict the future, but that we're in some specific way restricted in perceiving the universe. In his words: "If one imagines time as a straight line, stretched from the past into the future, our consciousness is like a wheel rolling across that line and touching it consistently only in one point; we call that point the present, and that present immediately becomes a past moment making room for the next one. Studies by psychologists demonstrated that what we take for a present moment, devoid of temporal extent, is indeed slightly prolonged and covers a bit less than half a second. Perhaps it is possible that the interface with that line might be a little bit wider; that it's possible to remain

> in contact with a longer section at the same time, and that the maximum dimension of that temporal section is exactly one hundred and thirty-seven seconds." If that's indeed true, says Hart, it means that the entirety of our physics is still anthropocentric, since it makes assumptions which are unimportant outside of human sensors and consciousness. […] It might be the result of the fact that the concept of the present is not only as relative as Einstein's theory proclaims, depending on the location of the observers, but it also depends on the scale of the phenomena in the same "place." The computer resides simply in *its own* physical present, and that present is more broad in time than ours. […] this has important philosophical consequences since it means that if free will exists, it only happens beyond the limit of one hundred and thirty-seven seconds, even though we'd never know this from introspection alone. Within those one hundred and thirty-seven seconds our brain behaves similarly to our body which is inert and cannot suddenly change direction – for this you need time to allow a force to skew the path – and something like that happens in every human head. […] the bigger a brain (or a brain-like system), the wider its contact with time, or the so-called "present," whereas the atoms don't properly touch it at all, only dance around it, so to say. In one word, the present is something like a triangle: point-like, near-zero where electrons and atoms reside, and widest around big bodies gifted with consciousness. (Lem, 2015)

Philosophical Commentary on the Conception of Lem

Similarly to Ingarden, Lem rejects the theory of the specious present, treating the subjectively experienced present as something real, however, he perhaps validates the theory of the objective punctuality of the present in reference to the objects of microphysics. The human experience of the present is treated as one of the possible experiences that are dependent on the structure of the subject experiencing it. Like Ingarden, Lem treats fissuration as a certain human limitation.[11] Lem, similarly to Ingarden, accepts various possible values of concrete beings' fissuration based on the complexity of their structure. The hierarchy of fissuration presented by Lem in the form of a pyramid also corresponds to the intuitions of Ingarden (as well as Ogrodnik). Lem assumes some finite value as the maximum value of fissuration, thus rejecting the hypothetical non-fissuration being. A particularly important thing is that Lem, and likewise Ingarden (and Ogrodnik), does not connect the phenomenon of extending the duration of the present to the act of predicting facilitated by the deterministic structure of being, but treats it as an essential part of a given being, based on its innate structure. The concrete objects compared to the wheels of various diameters rolling across the line of time, where the wheel

11 The number 137 – the maximum value of fissurations in Lem's story, is an allusion to both Pythagorean philosophy and modern physics, in which 1/137 is an approximate value of a dimensionless constant called *fine structure constant*.

diameters correspond to the levels in the hierarchy of the objects, present an interesting analogy. The contact with the line of time, or the present of the respective concrete objects (their fissuration), is directly proportional to the sizes of the diameters of the rolling wheels, i.e. the complexity of their structure. By expanding the diameters of the rolling wheel to infinity, i.e. considering an infinite being, we achieve full contact with the line of time, an eternal being - characterized by non-fissuration. This leads to determine God as a sphere, whose centre is everywhere and whose circumference is nowhere.[12] It is also very pertinent to show a relativity of the present understood in a sense different from Einstein's sense of relativity. Human activity occurs within his concrete present, the fissuration of which is "immersed" in a broader fissure of the activeness of an object higher in the hierarchy. It does not exclude the activity of man – however, according to Lem – it limits his freedom, and to be more precise – retards the activity of man by the maximum value of fissuration, if it is initiated by a free impulse of will.

The problem of freedom existing within the framework of the present of the object of a higher order is the counterpart to the theological problem: does divine foreknowledge limit human freedom? To formulate it in our manner, the problem appears as follows: does the value of the divine fissuration (resp. divine non-fissuration) of activeness, which triggers the destiny of the world, from the divine point of view, within the framework of one present, exclude the freedom of human action? And in more general terms, the freedom of action of all the systems of the lower order? Let us note that this formulation is rather stronger than the traditional problem of divine foreknowledge, as it considers not only the knowledge, but also the activeness of the divine subject.

Conclusion: The Spectrum of Possible Values of Fissuration and the Theory of the Relativity of the Duration of the Present

Having presented various arguments supporting the non-zero span of the present, i.e. arguments supporting the ontological interpretation of fissuration, I propose a generalization of the notion of fissuration originating in Ingarden's theory. The following values of the duration of the present of concrete time, i.e. the values of fissuration, are possible in a purely ontological sense:

12 This "geometrical" description of God might be incompatible with the idea of God's simplicity, hovewer, it is a natural extension of Lem's analogy.

1. Punctual (radical) fissuration: the present is a point devoid of dimensions, bears no duration – the value of fissuration = 0 (Augustine). This possibility only allows for phenomenal duration of the present (the theory of the specious present).
2. The interim case: a fissure with a finite, but a non-zero value, with a certain finite "duration". The fissure consists of a certain quantum (Bergson, Ingarden, Popper, Lem).
3. Non-fissuration: there are no limits to the activeness of being; it embraces the entire being (the value of the "fissure" = ∞). The distinction between present and non-present bear only specious character in this possibility (the theory of the specious non-present).

A solution combining all these possibilities would come true in a theory of the relativity of the present boundaries' span, assuming the multitude of perspectives, conditioned by various levels of structural complexity of objects – their position within the hierarchy of real objects and its material constitution. This last theory might perhaps be reduced to one of the previous options of 1 to 3. If we were to assume, as Ogrodnik and Lem do, that the objective present lasts as long as a quantum of the time of the object situated on the top of the real world hierarchy, then the boundaries of the span of the present of the objects of the lower order turn out to be only their cognitive limitation, thus they do not bear an objective character. We then see that it is only a generalization of the theory of specious *non-present*. We may, however, assume an opposite hypothesis, according to which the boundaries of the objective present are determined by the size of the quantum of the time of objects residing on the very bottom of the real world hierarchy. In this case, the length of the duration of the present of the higher-order objects will prove to be subjective. This second possibility illustrates the generalized theory of the specious *present*.

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