

Split Mind in a Split time

The Disturbance of Internal Time Consciousness in Schizophrenia

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Word count: 9.177

Main study: International Psychology

Date: 01/07/2020

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1. Introduction

“Time changes not, but all things change in time. For time is the force that holds events separate, each in its own proper place. Time is not in motion, but ye move through time as your consciousness moves from one event to another. Aye, by time yet exist, all in all, an eternal ONE existence. Know ye that even though in the time ye are separate, yet still are ONE, in all times existent” (Doreal 1994, 72). This extract from the *Emerald Tablets of Thoth the Atlantean*, gives a glimpse into the mysterious and pervasive nature of time. It is fundamental to our lives, society seems to be driven by time as we often hear “time is money”, “I have no time”, “time flies”. In ordinary common sense, time is usually understood as moving from the past, through the present and into the future. Nevertheless, when undertaking a deeper reflection on its essential nature, this common idea of time falls apart. Augustine of Hippo once said about time: “What, then, is time? If no one asks me, I know: if I wish to explain it to one that asks, I know not“ (Augustine 1876, 301). Likewise, if you are asked to draw time on a piece of paper, what would you draw? A clock? A calendar? It seems that we are only able to represent the material passing of time whereas the essence of time is left intact.

The study of time encompasses different fields of inquiry. In the realm of sciences, time is an element of almost all equations that describe the world (Mensch 2010, 1). Classical physics demonstrate time as having a direction, called the arrow of time, that ever since the big bang (through entropy), all events move from the past to the future. However, quantum physics created a riddle by arguing that in the micro domain there is no temporal direction. In philosophy, inquiring about time has existed since ancient Greece. Philosophers have ever since developed a conceptual understanding of time, establishing what is possible to learn about time and how it is possible (Dyke and Bardon 2013). The inquiry on time attempted to answer questions about the nature of time as well as questions about our experience of time and perception.

Temporal experience underlies the most fundamental workings of consciousness. If one wishes to investigate consciousness and intentionality, time consciousness may prove to be indispensable, as Husserl acknowledges “the most fundamental consciousness, presupposed in all other forms and structures of consciousness, is the consciousness of time” (Bernet, Kern and Marbach 1993, 101). However, the importance of the structures of

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consciousness, responsible for our temporal experience, may be taken for granted until it becomes disrupted. In particular, the subjective experience of time may be disturbed in certain mental disorders like schizophrenia and affective disorders (Stanghellini et al. 2016).

A theoretical understanding, provided by philosophical accounts of time consciousness, may offer the necessary support for the development of empirical studies and essential psychopathological concepts. In this regard, Husserl's phenomenological account has been extensively applied, providing fruitful insights (Vogeley, Kai, and Kupke 2007; Fuchs 2007; Fuchs 2013). Husserl formalizes the intertwined relation between the constitution of the self and that of time. Schizophrenia is characterized as a dissociation from experienced reality, in which the ego (self) becomes fragmented (Bob & Mashour 2011, 1044). Given the temporal disturbance inherent in its main symptoms, together with Husserl's observation, schizophrenia may be better understood as the fragmentation of temporal experience. Therefore, the present paper proposes the application of Husserl's investigation of internal time consciousness to the condition of schizophrenia as a structural disturbance of time consciousness.

To clarify Husserl's contribution, it is first necessary to describe how it relates to and then departs from Augustine's view. I will next explain the initial conditions for Husserl's analysis of time consciousness. Thirdly, I will give a more extensive elaboration of his account on how we constitute and experience time, presented in his lectures of *Phenomenology of Internal Time Consciousness*. Furthermore, I will explain how Husserl's theory can be applied to time disturbance in psychopathology, more specifically to Schizophrenia. Lastly, I will give an overview of the present work.

2. The investigation of internal time consciousness

2.1 From Aristotle and Augustine to Husserl

Philosophical inquiries on time may be traced to Aristotle's writings, as Heidegger noted "the first extensive interpretation of this phenomenon that has come down to us. It has determined all subsequent interpretations of time" (Mensch 2010, 13). For Aristotle, time is closely related to our mind registering change, so if there is no movement we do not perceive time. Aristotle adds the analogy of the now (present) as a point in a line between a before (past) and after (future) moment which can be enumerated; time becomes the number of change with reference to before and after (Dyke and Bardon 2013, 53). Therefore, Aristotle's account treats time as observed time pieces, as the number of motion. This account relates to how scientists understand time, by translating it to spacial relations of before and after, time

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becomes externally perceived through clocks and chronometers and thus common to all. Aristotle's account is indeed noteworthy, not only influencing his successors but also being closely related to our current common view of time. Nevertheless, Aristotle's perspective fails to account for our subjective apprehension of time. How are we able to sense something as before without a mental operation of remembering? What is the basis for our shared understanding of time? Aristotle does not provide us with answers, his account characterizes time as enumerated motion, translated into space as we look at our watches.

We seem to be aware of events succeeding each other, of objects having temporal continuity. The question is then, how does consciousness make our experience of time possible? An explanation for our subjective experience of time (time consciousness) came only a few centuries after Aristotle, in the work of Augustine. As Husserl once noted about time consciousness, "The first thinker to be deeply sensitive to the immense difficulties to be found here was Augustine" (Husserl 2019, 21). In order to account for our temporal experience, it is necessary to examine the work of Augustine, as Husserl further claims "Chapters 13-18 Book XI of the *Confessions* must event today be thoroughly studied by everyone concerned with the problem of time." This warrants a more extensive elaboration of Augustine's account.

Augustine was motivated to understand the beginning of the world, in time, Augustine acknowledges, lies the secret of God (Brann 1998, 244). His inquiry into the subjective basis of time starts by exploring the paradox of being and non-being of time. How can we measure the past and future, if the past is no longer and the future is not yet? An entity which does not exist cannot have said to the properties of longer and shorter. Similarly, by considering the present as having an extension, it would be composed of past and future parts, and these do not exist (Augustine 1876, 305). To solve this puzzle, Augustine first argues that the present must be confined to a momentary instant, and time exists as it unfolds in our minds, that the mind itself is extended in time. "It is not, therefore," concludes Augustine, "a future time (which is not) that is long; rather, a long future is a long expectation of the future. Nor is past time (which is not) long, but a long past is a long memory of the past" (Dyke and Bardon 2013, 78). These mental operations, memory, expectation and attention exist inside the extended mind in the present moment. Hence, time is represented by "a present of things past, a present of things present, a present of things future." (Augustine 1876, 306). Accordingly, these representations remain present in our mind as impressions, which is precisely what is measured when we measure time. Thus, by saying, for example, that I have been studying

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philosophy longer than I have been playing the violin, it means that my mind must extend for more memories associated with studying philosophy than with me playing the violin.

For Augustine, time exists to the extent that the present exists. The present itself (the now) paradoxically exists only in its passing away to the not present (Augustine 1876, 312). This passage via the present now, represents what we experience as the duration of a temporal object via our (extended) mental operations. Augustine made the passage of time clear in the example of reading a psalm “The further I go in my recitation, the more my expectation is diminished and my memory is lengthened, until the whole of my expectation is used up when the action is completed and has passed wholly into my memory” (Mensch 2010, 27). The now, although not extended in time, holds contents which are extended through the mind and as the content pass through the mind, we experience the passage of time. The present in the mind, lasting and constantly flowing, carries with it a streaming content.

Although Augustine’s account of time is notable in providing the subjective basis for Aristotle’s explanation, it does not come without problems. Since our perception of time is confined to the present, how can something present produce the sense of something past? Furthermore, how can the future be explained merely by its impression on the mind if it “will be”? Augustine does not provide us with answers (Mensch 2010, 27). Although many great thinkers offered an answer to the paradox of representing the past and future in the present, it is Edmund Husserl’s account which may offer a more satisfactory answer. The analysis of time-consciousness progressed significantly under the work of Husserl.

2.2 The similarities and differences between Augustine and Husserl

Philosophical accounts of time-consciousness attempt to explain our experience of time. How is it possible that consciousness enables the perception of change, succession and duration of events through time? Augustine has shown that through the extension of the mind we can perceive duration and thus measure time (Dyke and Bardon 2013, 78). It could be argued that Augustine shifts the study of time from Aristotle’s externally perceived time to inner temporality, and thus resembles the phenomenological method of Husserl. In other words, Augustine offers a “...reduction from “objective time”— the measured time of bodily movements— to a time immanent to soul’s activity of perception” (de Warren 2016, 28), which is essentially phenomenological. Furthermore, Augustine argues for the impression of the future as the “past projected forward”, an observation also made by Husserl (Mensch 2013, 28). Perhaps these resemblances, among others, led Paul Ricoeur to consider Augustine

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as the one “who laid the foundation of phenomenological thinking of time” (Nankov 2014, 229).

Despite these similarities, there are different ways in which Husserl’s phenomenological approach departs from Augustine’s conception. According to Augustine, the extension of the mind in the now allow us to experience (and measure) time. In his view, the extension of the mind is the faculty which apprehends the past by utilizing memory (Hausheer 1937, 507). Augustine resorts to memory as the “present of past things” to explain our perception of duration. However, one may ask, how are the past moments to be distinguished from the present moments given that both are simultaneously present in perception? How do we acquire the sense of a not present object, as the past and future, by means of something present? Husserl noted these inconsistencies in Augustine’s analysis and declared that to grasp the past directly, we do not need to rely on a present image or to compare what no longer exists to the now (Mensch 2013, 7). Instead, we apprehend the past directly through our retentive consciousness, which when applied to sound, for example, “includes real consciousness of the past of sound, primary remembrance of sound, and is not to be resolved into sense sound and apprehension as memory” (Husserl 2019, 54). Husserl turns Augustine’s analysis to phenomenological grounds by considering how time appears to consciousness, how temporality is given by temporal structures of consciousness to which memory and perception are founded.

2.3 Husserl’s *Phenomenology of Internal Time Consciousness*

The analysis of internal time consciousness begins with Husserl’s precondition for any phenomenological analysis, the phenomenological reduction, “the complete exclusion of every assumption, stipulation or conviction concerning Objective time” (Husserl 2019, 22). Nevertheless, one may ask, what is Husserl really excluding? Time as our common sense understands, conceptualized as coming from the past, passing through the present and into the future. The time of clocks, calendars, of science, cultural history, “worldly time”. Husserl does not mean to say that psychological and the metaphysical nature of time do not exist but that it must be put aside if time is to appear as such. What is left from this reduction is the “immanent time of the flow of consciousness” (Husserl 2019, 23). Husserl means to arrive at structures of consciousness constituting the modes of objects appearing as past, present and future.

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Furthermore, Husserl's inquiry presents the foundation for our experience of time. As Sokolowski suggests, there are three levels of temporal structure (Sokolowski 2000, p. 130). Firstly, objective time can be measured and verified, for instance, when we say the flight to Berlin lasted two hours. Secondly, subjective time represents how mental states and experiences follow one another in our conscious life. For example, I may experience a two-hour lecture as fast or slow. Lastly, there is the consciousness of internal time, it accounts for our experience of the succession of subjective time (as with memory and expectation). It is absolute as it does not need any level beyond it, representing the foundation of our experience of time. In fact, we may disagree on our subjective experience of time but agree on the objective duration of an object, but this is only possible because of the underlying structure of consciousness. Husserl's analysis gives an account of this absolute layer of consciousness which gives form to our temporal experience.

In the *Phenomenology of Internal Time Consciousness*, Husserl is interested in the lived experiences of time. The lived experiences are constituted by "sensed" temporal data, through which apprehensions of time constitute the temporal object (Husserl 2019, 28). This represents the subject matter of Husserl's analysis, following from the exclusion of objective time, the "hyletic data, and the acts that animate them, survive the phenomenological reduction" (Williford 2013). The following example may illustrate how this process unfolds. Imagine yourself looking at a cup of water, you close and open your eyes for a second, you find the same cup in front of you. However, we are now presented with two moments of the same cup, temporally separated, they are different and yet refer to the same object. As Husserl noted, "in the object there is duration, in the phenomenon, change." (Husserl 2019, 27). The previously mentioned apprehension brings the separation of moments together in a temporal sequence; hence we have a unified temporal object. However, Husserl affirms that the "sensed", apprehended time cannot be equated with objective time as we experience it (Husserl 2019, 26). The apprehension of temporal content is not equivalent to an objective apprehension as we empirically understand. Still, to this act and content of apprehension belongs a priori truths: "self-evident laws such as the following: (1) that fixed temporal order is that of an infinite, two dimensional series; (2) that two different times can never be conjoint; (3) that their relation is a non-simultaneous one; (4) that there is transitivity, that to every time belongs an earlier and later;" (Husserl 2019, 29). These a priori of time are intrinsic to apprehended time, as well as determining temporal series (Ricoeur 2010, 26).

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Husserl's aim on examining time consciousness is to reveal the constitution of apprehended time in order to clarify these a priori laws of time.

2.4 The temporal object

In considering how we represent the past and future in the present, Augustine has argued for the extension of the mind through its mental operations. William James proposed the specious present as a possible answer. In James' account, the present moment is itself extended (through which we experience duration), meaning that the sensed content is temporally extended (Mensch 2010, 46). In Husserl's view, neither the mind nor the sensed content are extended but the experiencing act of consciousness (Dyke and Bardon 2013, 138). The relevance of Husserl's phenomenological analysis is made explicit when it is noted that in the extended act of consciousness lies the foundation for the specious present as well as for memory¹. It is by a consideration of this fact that Husserl proceeds with his analysis, deriving an explanation for the constitution of time as the duration and succession of objects. However, Husserl notes that to account for how time is constituted, the constitution of the temporal object (*Zeitobjekt*) must be elucidated. (Husserl 2019, 43).

The temporal object reveals the core of Husserl's analysis, namely, duration, "the continuation of the same throughout the succession of other phases" (Ricoeur 2010, 26). The paradoxical nature of the temporal object represents something more than mere succession or the sum of its moments. Let us consider Husserl's classic example of listening to a melody. The melody begins to sound, as I hear the second tone, the first tone is somewhat present, and the third tone is anticipated as if the melody is going towards a conclusion. The melody continues to sound and at every new moment, the previous tones seem to carry me along as I expect more to come. In each moment of its duration, I hear a melody as a continuation of the tones and not just a particular tone. As Husserl himself puts it: "Every tone itself has a temporal extension: with the actual sounding I hear it as an ever new now. With its continued sounding, however, it has an ever new now, and the tone actually preceding is changing into something past" (Husserl 2019, 43). The extension of the tones in a melody represents the extension of consciousness beyond the now to grasp the temporal object (the melody in this case). But how does consciousness manage to accomplish this? The answer lies in the "time constituting phenomena", which represent the "originary temporal field" (living present) of

¹ Husserl's account of extension as the extended act of consciousness, gives the necessary conditions, and makes possible, James' specious present and Augustine's "present of things past" (Dyke and Bardon 2013, 138)

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our experience at any instant (Bernet, Kern, and Marbach 1993, 103). It is composed of three different moments (modes of appearance); retention, primal impression and protention.

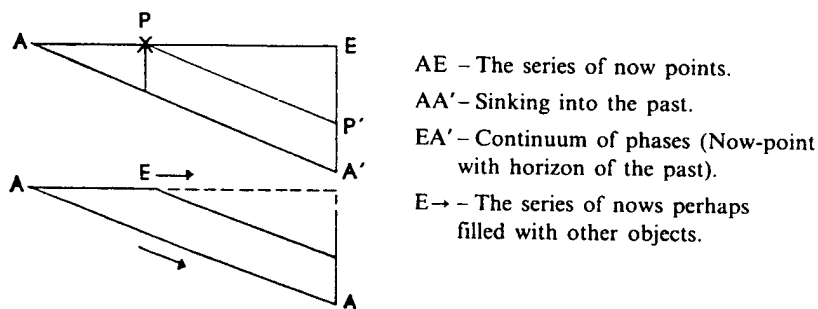
Following the example of the melody, the tone occupying the now moment corresponds to the primal impression. It is the actual phase of immediate experience. But almost instantly, the tone in primal impression slips to into the past. However, it does not disappear from consciousness, it is now retained. The retention is arguably the key to our grasp of the temporal object, “in this sinking back, I still “hold” it fast, have it in a “retention,” and as long as the retention persists the sound has its own temporality” (Husserl 2019, 44). The tone has changed (from actually sounding) into something “just past”, as “having been”. As new tones sound, the previous retentions are again retained, being constantly modified in its relation to the actual now. As the melody unfolds, the living present encompasses a chain of retentions, of fading phases belonging to the now. This process may be understood as a comet’s tail, the now actual phase is the centre of the comet, accompanied by its elapsed phases as its tail (Sokolowski 2000, 146)². As an ever new now is generated, the previously sounding tones accumulate and decrease in clarity. At this point, Husserl argues “as the temporal object moves into the past, it is drawn together on itself and thereby also becomes obscure” (Husserl 2019, 47). Across the succession of its phases, the object is in constant change, continually different in its passing away, yet, its continuity is maintained, its parts are unified as the retention ceases. The remaining moment of the living present is protention, directed to the “not yet”. It is based on retention as a “project shadow” or a projection of the past, as an expectation, into the future (Bernet, Kern, and Marbach 1993, 103).

The constituting phenomena of temporal objects is not a mere appearance, Husserl calls it the “running off phenomena”, they are “modes of temporal orientation”, in Husserl’s words, “it is a continuity of constant transformations which form an inseparable unity” (Husserl 2019 48). The modes of “running off” begin at the source point, to which its succeeding phases constitute a continuity of past phases, but in such a way that each temporal point of the duration has its own continuity of the modes of “running off”. As the object unfolds throughout its duration, both the mode of “running off” and the “running off” of each temporal point are constantly modified. Husserl designed a diagram to help illustrate the identity of the temporal object in the succession of its different phases, revealing the “double

² In fact this analogy was first made by Husserl (Husserl 2019, 52)

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continuity of modes of running off” (Husserl 2019, 50)³ (see fig. 1). Time flows along the horizontal line, which constitutes the modes of “running off” belonging to the enduring temporal object. There is a distinct continuity of “running off” in each point of the horizontal line. In this temporal point, an impression sinks down the vertical line as a retention, and the retention is further retained as the temporal object unfolds. At the end of the vertical line retention ceases and the retained phases fall into oblivion. Suppose I hear the melody *do re mi*, then at time E in the diagram, I have the retention *do re* (represented by A’P’). Although protention is not represented, it may be argued that at the time E with retention *do re*, there is also the protention *mi*, projected forward. The key aspect of this diagram is the constant modification of the running off phenomena. With every new now, the continuity of “running off” sinks uniformly into the past as a whole (Husserl 2019, 50). In addition, the “running off” of each temporal point undergoes alteration while its continuity expands. The diagram indicates how the same impressional content continues through distinct retained times, it is apprehended across its own succession until it fades away (Mensch 2010, 75). The flux of time (streaming present) lasts as long as new impressions push its past phases further back. As a result, retentions undergo constant modifications as its relation to the now source points also constantly changes. In this way, the content of impression, retention and protention acquire temporal order.



(fig. 1: Mensch 2010)

In the above diagram, it was shown how every moment is connected to each other through a continuum of constant modifications in which every elapsed phase is modified as a new now appears. On the other hand, a conception of immanent time as discrete moments filling up a point like now would indicate different phases as separated and independent. In this consideration, time is reduced to distinct “boxes”, of which the temporal content loads the

³ Mensch, James R. "Husserl's Account of our Consciousness of Time." (Marquette University Press, 2010), 73.

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corresponding “box” and hence it becomes measurable by clocks as individual seconds. To illustrate this conception of immanent time, we may scrutinize the event of a person running as a temporal object. If I am to grasp motion, at each new moment I must add the previously occupied positions of the runner and thus compare the present position with earlier ones to perceive the running. In other words, I must re-present the past phases of the temporal object at any given instant. In this example, it is as if I am presented with a succession of “still images” of the movement. Augustine views our experience of time in this manner, arguing that consciousness is confined to a momentary present (Dyke and Bardon 2013, 78).

According to Husserl, what is retained is our sense of the “just happened”, and not the event itself (Dyke and Bardon 2013, 139). Back to the example of the melody, neither the reverberation (a very weak tone) nor the after-image, have anything to do with the nature of retention (Husserl 2019, 53). In the listening of a melody, as well as in the event of the running person, I am aware of the whole movement through its part. From this, it may be argued that past, present and future are intertwined, unfolding in every single instant.

Likewise, retention, primal impression and protention are inseparable moments encompassing the living present (original temporal field) (Bernet, Kern, and Marbach 1993, 104). It is not possible to refer to one without implying the other as they form a unity, a continuity.

Augustine’s view cannot account for the constant modification of moments since he sees them as discrete and isolated, having to be brought to consciousness at every instant. For Husserl, if the temporal object is given as a disconnected series of points, we would not hear the melody or see the running person, since these encompass a temporal continuity (Wehrle 2019, 6).

2.5 Recollection

Husserl asserts that retentional consciousness must be a continuation of impressional consciousness (Husserl 2019, 56). As it was argued above, retentions follow from the now source point like a comet’s tail. When Husserl claims that “something past” and “something now” can be identically the same, he refers to the continuation of the same temporal object (for example, the same melody) in which impressions are constantly modified into a retentional continuity. However, these modifications not only precede the identity of the temporal object across its successive phases but also its differences which would indicate a “past” and a “now” excluding each other (Husserl 2019, 57). In order to account for what is “no longer”, as no longer present, which lies beyond the comet’s tail, recollection (secondary remembrance) must be considered (Husserl 2019, § 14). In the example of the melody *do re mi*, the retained content is the same as when this same melody is remembered. The distinction

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is not so much about content but their structure (Bernet, Kern, and Marbach 1993, 105). The recollection is a “presentification”, a representation of the original experience, itself not a perception, not a “given” as the temporal determinations and relations but a reiteration of the entire perception⁴. As Husserl argues “we seem to perceive it again, but only seemingly, as-if”. (Husserl 2019, 59). After having perceived a melody, I can represent any of its present instants as a source point, which “mirror” the continuity of retentions and protentions of the (originally) perceived temporal object. In other words, since the given in perception is identical to what is recollected, every past retained may be arranged as a quasi-present with its own protentions and retentions (Ricoeur 2010. 32). It could be argued that what crucial is the passage from perception to non-perception. Retention, composed of a continuum of gradations being constantly modified, reaches an “ideal limit”, the limit of the pure now (the end of the comet’s tail). It is in retention, and not in recollection which lies the “origin” of the past, as Husserl claims “For only in primary remembrance do we see what is past; only in it is the past constituted” (Husserl 2019, 64)⁵.

Among the distinctive aspects of reproduction (recollection) is the freedom of its movement, a “free running through” (Husserl 2019, 71). The fact that I can “go through” the past and “presentify” it faster, slower, in steps or continuously, renders free reflection possible. Furthermore, against the more fluid time inherit in the originary consciousness, the constant transition between impression and retention, we have an objective time as a fixed order (Bernet, Kern, and Marbach 1993, 105). As Husserl puts it “every point exhibits an Objective temporal point which can be identified again and again” (Husserl 2019, 144). Objective time is primarily constituted in “originary” consciousness, in the sinking back to the past, the temporal object preserves its identity, yet it is in recollection that I grasp the identity of the temporal object⁶. Recollection is responsible for a more stable position of the moments of memory. However, it is also true there is a modification taking place as I return to the past. Upon turning back to the same temporal points, they sink even further back into the past, decreasing in clarity (Husserl 2019, 71)⁷.

⁴ In perception the temporal object is presented, the object unfolds in its originally given mode as a presentation.

⁵ For Husserl, the past is directly perceived (sensed) as past. Thus, retention is itself a perception, inherent in the present moment.

⁶ In re-experiencing and reproducing the original perception as “once more” and thus I can confirm to myself that “it is” the same object (For a more elaborate account; Husserl, “Appendix IV: Recollection and the Constitution of Temporal Objects and Objective Time”, 143)

⁷ Husserl distinguishes the lack of clarity of retention and recollection, as this implies a constant modification. The decreasing clarity which results from the fading of retentions and the diminished clarity of what is represented. However, Husserl did not give an in-depth explanation as to how distinct they are. (Husserl 2019, § 21)

2.6 Protention

From the above discussion, it seems that the appearing mode of future, protention, has been left out of the analysis. The reason for such omission is due to Husserl himself, it may be that since he saw protention as being based on retentive consciousness there was no need to give it extensive elaboration. In any case, he was brief on its account⁸. Just like retention precedes recollection, protention is immediate and thus precedes our expectation. For example, if you listen to melody you have never heard before, you still have a sense that something will happen (Sokolowski 137). But is it possible to describe protention as a continuum similar to retentions? If we consider protention as the inverse of retention, as Husserl did, then it seems to be possible. For instance, I intend a given moment of a melody, as I approach this moment, the chain of retentions accumulate while the chain of protention decreases. I expect a certain experience to happen and as I advance in time, the new experience fulfils my initial expectation⁹. Since each retention of the continuum has its own protentions and, these retentions were the protentions of previous retentions, this process of expectation and fulfilment with an ever new coming experience “unifies the whole of the retained experience that has met our expectations” (Mensch 2010, 103). Every protention shows a tendency directed to its fulfilment as well as towards “an empty horizon beyond fulfillment”, hence they form a continuum just like retentions (Lohmar 2010, 100). This presupposes a modification of both retention and protentions, as they form a continuity.

Furthermore, it has been suggested by Husserl that recollection also has its dimension towards the future, “every act of memory contains intentions of expectations whose fulfilment leads to the present” (Husserl 2019, 76). A remembered expectation, when realized in the present, integrates recollection to the flow of lived experience (Ricouer 2010, 36). This may offer another illustration of the intertwined relationship between retention and protention, in the act of remembering I direct myself to the depths of memory, and because of my initial intention to retrieve a particular something, I am brought back to the present to fulfil the expectation. The relationship between protention and retention is fundamental, by establishing

⁸ In fact, Husserl may have noticed the importance of a more elaborated account of protention since he altered his diagram of time (shown before) to include the protentional aspect of time (Mensch 2010, 103). But he did so only years after his lectures on *Phenomenology of Internal Time Consciousness*, under the work of *Bernau Manuscripts*. Therefore, the new diagram of time with protention is not included in the present work.

⁹ Note that the new experience does not fulfil in the sense of actual fulfil my expectations, even if it does not, the protention will “fulfil itself”, the interaction of expectation and fulfilment happens regardless (Mensch 2010, 103).

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(or having a sense) what has just happened and what will happen, it is possible for a temporal object to have its location in time, in a temporal order (Mensch 2010, 101).

2.7 Double intentionality and absolute consciousness

In discussing the double intentionality of recollection, Husserl demonstrates that in all “presentifications” there is a reproduction of the temporally constitutive intentionality (the living present in which the object was first given) as well as a consciousness which constitutes the reproductive modifications as a “past consciousness” (Husserl 2019, 77). Husserl further argues: “For the temporal thing, we have the ordering into the temporal form and the temporal world on the one side, and on the other the temporal thing itself and its changing orientation with regard to the living now” (Husserl 2019, 79). In other words, we arrive at the consciousness of past (a reproduced duration in the foreground) as well as an intention directed to the actual living present (understood as the temporal background). The notion of background and foreground, drawn primarily in the double intentionality of retention, is crucial for understanding the double intentionality of consciousness (Husserl 2019, § 39).

Longitudinal intentionality runs through the flux in which primal impression changes to a retention and then into a retention of a retention (Husserl 2019, 107). It exists in the absolute transition in which a new now is followed by a continuous of retentive modifications. This intentionality makes possible the continuous “knitting together” of impression with its retentions and protentions, as well as my awareness of the temporal flow (Russell 2006, 134). Furthermore, it may be argued that it is due to this intentionality that any given moment of my (act of) apprehension, I have a consciousness of the temporal succession as being continuous to my own experience of this succession. It is the fact that “I” am aware of my own streaming consciousness, a “pre reflective self-manifestation of consciousness” which enables temporal self-awareness (Zahavi 2003, 171). On the other hand, transverse intentionality is when the reflection is turned from the primal sensation to the endured sound as a temporal object (Dyke and Bardon 2013, 402). By means of this intentionality, I am able to intend a sound over its successive appearing phases, and thus I apprehend the transcendent object.

One intentionality is responsible for the departure from the living present to the awareness of the temporal object (transverse) and the other relates and merges the different phases of the appearing temporal object (longitudinal). In Husserl’s word respectively, one intentionality of which the “immanent time is constituted [...] an Objective time, an authentic

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time in which there is duration and alteration of that which endures.”, and the other in which “is constituted the quasi temporal disposition of the phases of the flux, which ever and necessarily has the flowing now point [...] a pre-immanent temporality” (Husserl 2019, 109). Hence, it may be argued that the constituted immanent time in the foreground is set up on the background of pre-immanent temporality. The two intentionalities are interwoven, for the existence of a temporal object, temporal phases of its appearing are necessary, and for the existence of a temporal order through appearing phases, a relation to the enduring temporal object is necessary (Russell 2006, 134). From the example of the runner in the previous section, it is due to the longitudinal intentionality that I perceive a continuous movement instead of discrete separated moments, and because of the transverse intentionality I perceive a person running across the whole duration.

Longitudinal intentionality characterizes the “flow of consciousness”, which not only constitutes immanent time but enables the flow of consciousness to appear to itself in its flowing. As stated before, Husserl aims to investigate the immanent time of the flow of consciousness. The term “flow” indicates the “absolute subjectivity” from which the primal source point with its continuities arises. Husserl argues that the flow is neither in the now nor its elements are in succession, “We can only say that this flux is something in conformity with what is constituted, but it is nothing temporally “Objective”” (Husserl 2019, 100). As a result, temporally constitutive phenomena are themselves non-temporal, retention does not itself happens in the now or even simultaneous to it, and as such we cannot use temporal predicates to the phenomena which constitute time, this is the essential difference between the constituting and the constituted (Mensch 2010, 90). If the time constituting consciousness was itself within time then we need another consciousness in order to constitute the time consciousness as temporal and thus we would have the issue of infinite regress (Bernet, Kern, and Marbach 1993, 108). By means of the absolute consciousness, time in its appearance unfolds, making possible the constitution of the immanent temporal unity and the temporal objects. It could be argued that the true nature of absolute consciousness is a mystery, Husserl admits that there is no proper name to refer to the absolute consciousness, and so he uses the term “flow” (Husserl 2019, 100). Nevertheless, the absolute flow of consciousness could be understood as the absolute ground of all being, it is the condition for the possibility of our temporal experience.

3. Internal time consciousness and Psychopathology of temporality

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“While watching TV it becomes even stranger. Though I can see every scene, I don’t understand the plot. Every scene jumps to the next, there is no connection. The course of time is strange, too. Time splits up and doesn’t run forward anymore. There arise uncountable disparate now, now, now, all crazy and without rule or order” (Fuchs 2007, 233). This is the report of a subject suffering a psychotic episode under the condition of Schizophrenia. In this example, it is clear that his temporal experience becomes fragmented, there is no continuity or flow in the subject’s experience. The study of time disturbance in psychopathology is in constant development, encompassing conditions such as obsessive-compulsive disorder, depression and schizophrenia (Fuchs 2013). In this regard, Husserl’s investigation of internal time consciousness proved to be a fruitful source for a conceptual understanding of the psychopathology of temporality (Vogeley, Kai, and Christian Kupke 2007).

In the previous sections, it was shown how time-consciousness guarantees our perception of temporal objects as well as our awareness that “I” am the one experiencing the object over time. Without the structures of the living present, impression, retention and protention, I would never be able to make a statement like: The bird has been hovering in the sky for several seconds until it rapidly dived into the water to get a fish, I felt vibrant throughout the occasion. This example not only supposes the perception of an object as enduring and having a temporal location, but it also presupposes a pre-reflective self-awareness, that “I” am the one feeling vibrant throughout the succession of the object. In the next section I will elaborate on how Husserl’s analysis of time-consciousness may support an understanding of the psychopathology of temporality. To have a more fruitful discussion, I will narrow the investigation to time disturbance in schizophrenia.

3.1 Schizophrenia and time disturbance.

The Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-V) characterizes schizophrenia as a psychotic disorder with two or more of the following symptoms present for over a month: hallucinations, delusions, disorganized speech, grossly disorganized or catatonic behaviour and negative symptoms (such as avolition) (Tandon 2013). These symptoms significantly impair the person’s social relationships as well as their occupations. It has been suggested that these symptoms may be explained by a disturbance of internal time, through a disruption of the constitution of time consciousness and the pre-reflective self-awareness of our temporal experience (Fuchs 2013). However, we may first ask

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ourselves if Husserl himself saw the possibility of an error in our temporal constitution. In section 22 of *Phenomenology of Internal Time Consciousness*, Husserl states “ If I have been originally conscious of a temporal succession , it is indubitable that a temporal succession has taken and takes place. But this is not to say that an (Objective) event really takes place in the sense in which I apprehend it. The individual apprehension can be wrong, corresponding to no reality” (Husserl 2019, 73). This claim could be applied to the phenomenon of hallucination in schizophrenia in which people see and hear things that others do not (that do not exist in reality). Although Husserl indeed admits a possible mismatch between temporal succession and the correspondence to a transcendent object, it may be hard to argue that it accounts for a disturbance in the synthesis of time-consciousness in which a temporal succession barely (or does not) takes place. In this regard, we move to a consideration of authors drawing on Husserl’s conception of internal time consciousness.

In discussing time disturbance of schizophrenia, it may be argued that patients suffer from a disruption of longitudinal intentionality. By means of the pre-reflective awareness of the flow of consciousness, a retention of the just phase of a temporal object acquires the sense of being “my” experience. A pre-reflective awareness of the passing away of my experience (Zahavi 2003, 171). In turn, a disturbance of this phenomenon may explain different symptoms in schizophrenia, for example, it is common that individuals cannot keep up a conversation, losing track of their line of thought, the speech becomes fragmented instead of constituting a coherent unity (Wehrle 2019, 14) Consider the following report of a patient: “I can concentrate quite well on what people are saying if they talk simply. It’s when they go into long sentences that I lose the meanings. It just becomes a lot of words that I would need to string together to make sense.” (Fuchs 2007, 233). In this situation, the individual fails to create a meaningful sentence, when it is claimed “to string together to make sense”, it seems that longitudinal intentionality, which “knits together” protentions and retentions to impressions fails, and the spoken sentence which unfolds as an enduring (temporal) object disintegrates. In addition, it may be argued that since there is a no link between time constituting phenomena at the primordial (originary) sphere, the effects of the disruption should also manifest in reproduction (memory)¹⁰. This is indeed the case, as research on “auto-noetic awareness” (to relive one’s past events) and memory recognition shows

¹⁰ Since reproduction is the re-presentation of an earlier perception of a temporal object. If there is a problem in the original perception, this should necessarily reflect on the reiteration of the original perception, hence in the reproduction.

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a disturbance among schizophrenic patients, in which they cannot connect separate events into a memorable coherent whole (Vogele, Kai, and Christian Kupke 2007, 162).

Furthermore, one may attempt to use Augustine's theory of temporal constitution to account for such temporal disturbance as described above. As argued in previous sections, Augustine resorts to memory in order to explain our perception of the past, the "present of things past", which means that the past phase of the object remains in the present consciousness and thus we perceive the duration of the object (Hausheer 1937, 507). If Augustine's view is applied to the above case of the lost meaning of a sentence in schizophrenia, we may arrive at a similar conclusion to the example of the running person as mentioned in the previous section. If consciousness is indeed confined to a present instant, as Augustine understood, it would be necessary to represent all past phases of consciousness in the actual now phase in order to perceive the person running. Augustine's account may be reconsidered under the findings of a study which has shown how schizophrenic patients experience the world as snapshots, "World like a series of photographs" since there is no unification of consciousness (Stanghellini 2016, 50). It could be argued that Augustine's conception of time consciousness is closer to an account of time like a series of snapshots, and thus similar to the experience of time as described by patients suffering from schizophrenia. This observation may render Augustine's view unfit to explain time disturbance.

Fuchs (2013) drew special attention to the impairment of protentional function in schizophrenia, a disruption of the "expectation of things to come". Protention involves a "cone of probability" in which consciousness is directed towards more probable events as determined by retentions and impressions, and thus one may avoid inadequate associations and distractions (Fuchs 2013, 85). Let us consider the following description of a schizophrenic subject: "When I move quickly it's a strain on me. Things go too quickly for my mind. They get blurred and it's like being blind. It's as if you were seeing a picture one moment and another picture the next." (Fuchs 2013, 86). According to Fuchs (2013), with the disruption of protention, events come too fast for conscious apperception, the individual is unable to intend a future course of action, thus becoming confused. In another example, a patient reported "I could no more think what I wanted; constantly alien thoughts were pushing in between [...] as if someone would not think by himself and would be prevented from his own thinking, and his thoughts were controlled [...] I began to wonder whether this was still me or an exchanged person" (Fuchs 2007, 233). In terms of time disturbance, this experience may be interpreted in the two following ways. Firstly, the above example may

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illustrate a fragmentation of the pre-reflective awareness of consciousness (product of longitudinal intentionality), in which temporal flow of consciousness is aware of its own streaming (Zahavi 2003, 170). The individual may experience the thoughts as coming from another person precisely because he lacks the self-awareness of the temporal flow which prevents the subject from becoming disassociated from his own mental experience as it unfolds in time. Secondly, Fuchs has argued that since protention is disturbed, the individual is no longer able to exclude inadequate associations and thoughts, in a way that “consciousness is surprised by itself”¹¹. As a result, one is forced to concentrate on what has just happened in consciousness (Fuchs 2013, 86).

Although Fuchs (2013) highlights the disruption of the protentional function, there are also more specific impairments in the retentional aspect of consciousness. A study reported that schizophrenic patients often experience “Déjà vu”, meaning that people and situations were experienced as if they already had happened before. Subjects would report “When I heard news I felt I had heard it before” (Stanghellini 2016, 50). This indicates a fragmentation of time in which retention cannot be discerned from impression, the individual “feels” that the actual moment already occurred, hence the present is perceived as being past.

In normal circumstances, when we are completely engaged in our present activities, we seem to become unaware of our bodies and even time itself. Our whole being is carried along as we perform the action at hand, as if we are “inside time”. Whenever this implicit temporality is disrupted, one goes “out” of synchrony with the “intersubjective now” of others (Wehrle 2019)¹². The experience of time becomes explicit and individuals’ experience becomes faster or slower in relation to others. In schizophrenia, individuals may experience a “delusional mood” so that ideas and thoughts have to be realised as soon as they come to mind, hence the subject becomes startled and impatient. As a result of the delusion, they feel uncomfortable in the presence of others as they are not sharing a common time, in turn, this may explain the isolation and avolition which schizophrenic individuals experience (Fuchs 2005, 197). In addition, the lack of synchrony with the common “now” of others may explain the findings of empirical studies on time estimation tasks. It has been shown that when schizophrenic patients are asked to estimate the duration of an interval, they tend to

¹¹ The explanation of Fuchs (2013) becomes clearer if the “cone of probability” mentioned above is considered.

¹² As Wehrle (2019) noted, there are also positive experiences of explicit time (for example, explicit time may be a necessary feature of human embodiment). But since we are considering schizophrenia, explicit time is looked upon negatively, as a burden to everyday performance.

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overestimate as well as underestimate its time, judging the presented stimulus as faster or slower than its actual duration (Vogeley, Kai, and Christian Kupke 2007, 161).

Husserl's analysis of internal time consciousness finds strong support in cognitive neuroscience research on prefrontal cortex (PFC) dysfunctions of schizophrenia (Vogeley, Kai, and Christian Kupke 2007). Both Husserl and the neuroscientific view support the understanding of schizophrenia as a structural disturbance of internal time consciousness. Fuster (2003) argues that the PFC is constituted by a tripartite structure; working memory (holds information temporally as past), interference control (sustains the present enacted sequence of behaviour) and preparatory set (prepares for future action). The PFC is involved in the constitution of time consciousness and thus becomes compatible with Husserl's time constituting structures; retention, primal impression and protention. Furthermore, both Husserl and current neuroscience refer to the extended duration of the present. As argued in previous sessions, Husserl understood our experience of the present as an extended now with impressions being retained and protentionally projected forward, as such we perceive a melody as enduring tones and not as the accumulation of discrete tones. Likewise, the PFC reconciles and integrates elements from recent past and future, unifying different functions into a behavioural act (Fuster 2003, 109). The PFC integration across time enables the connection of temporally apart moments, our behaviour becomes temporally organized, and hence we may claim: "a structure of action is a temporal gestalt, like a melody" (Vogeley, Kai, and Christian Kupke 2007, 160)¹³.

Husserl's analysis of time-consciousness may be understood as an account of self-consciousness. In other words, Husserl identifies the constitution of time with the constitution of the self (Mensch 2010, 3). As Zahavi argued, the retentional modification not only enables the experience of an enduring object through its successive phases, but they also provide a "pre-reflective and inherit temporal self-awareness" (Wehrle 2019, 7). In the structure of time-consciousness there is an intrinsic pre-reflective awareness which makes possible the perception of the self as well as the temporal object, hence time and self may be understood as inseparable. Schizophrenia comes from the Greek, 'schizein' (to split) and 'phren' (mind). The split mind refers to a dissociation from experienced reality, "a disturbance or alteration in the normally integrative functions of identity, memory, or consciousness", a form of "ego fragmentation" (Bob & Mashour 2011, 1044). In

¹³ Current research on neuroscience not only supports Husserl's analysis but it may prove worthwhile integrating both views to further develop empirical studies in regard to schizophrenia.

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Schizophrenia, patients often report intruding thoughts and the feeling that these thoughts belong to a different self, this relates to a disintegration of both the protentional function to direct one's future actions as well as the synthesis of temporal constituting phenomena (Vogeley 2007). Given the intertwined relation between the constitution of the self and that of time, the conception of schizophrenia as "ego fragmentation", points to a conception of this condition as a fragmentation of temporal experience, as discussed throughout this section.

4. Conclusion

Time is fundamental to our lives, it is familiar and yet it is remote, quite unknown to us. Philosophers have inquired into the nature of time since ancient Greece. However, a prominent account of our subjective experience of time only came with Augustine, who understood time as confined to a present moment and apprehended by the mental operations of an extended mind. Husserl deemed Augustine praiseworthy but also noted several inconsistencies in his account. Husserl went on to investigate the structures of consciousness which enable the constitution of a temporal object and of time itself. Through his method of phenomenological reduction, he arrives at the object of analysis, the immanent time of the flow of consciousness. Husserl aims to bring the constitution of apprehended time to light in order to clarify the a priori laws of time.

Husserl examines the enduring temporal object across the succession of its phases. and arrives at the three moments constituting the originary temporal field, namely retention, primal impression and protention. Taken together, these moments unfold as a unity at any given instant such that consciousness extends beyond the now to grasp the temporal object. The key to temporal experience is the constant modification of the flow of consciousness, of impressions modified into a continuous flow of retentions which are projected to the future as they sink further into the past. Husserl distinguishes retention as a sense of "just past" from recollection as "no longer", a reiteration of the original perception. In addition, protentions play an important role in unifying the retentional experience once they meet our expectations.

The double intentionality of consciousness marks the final key step in the constitution of our temporal experience. Longitudinal intentionality accounts for the continuous flow of consciousness, merging its different phases and giving rise to self-awareness of the temporal flow. Whereas transverse intentionality accounts for the enduring temporal object. Together they enable the perception of duration across the succession of elapsed phases of

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consciousness. Time is constituted in the constant flow of absolute consciousness to which the whole of time constituting phenomena of Husserl's analysis takes place. Timeless streaming without any constituting levels below it, the very condition for the possibility of our temporal experience.

Husserl's analysis of internal time consciousness gives an elaborated account of how time and its objects are constituted. Temporal experience is set at the basis of the operations of consciousness. Nevertheless, it is usually taken for granted until it becomes disrupted. In schizophrenia, the subjective experience of time is disturbed. Husserl's conception of internal time consciousness has been applied in order to understand how time disturbance is implicated in several symptoms of the condition, such as delusions, disorganized speech and avolition. It is evident that time becomes fragmented in schizophrenia, moments are not connected into a coherent whole, the individual is unable to plan for future actions and there is a general lack of agency. The present work has shown how protention, retention and longitudinal intentionality may help us understand the symptoms of schizophrenia. Furthermore, Husserl's conception finds a lot of converging points with current neuroscientific research, giving further evidence to the importance of Husserl's investigation.

To conclude, Husserl offers an influential account of our temporal experience. When applied to schizophrenia, under the context of the psychopathology of temporality, it may well account for this condition as a structural disturbance of time consciousness. Given the foundational character of time constituting phenomena as well as the prevalence of fragmented time in schizophrenia, it is plausible to postulate that the disturbance of temporal experience is the cause of schizophrenia. Nonetheless, it may be advised to further examine Husserl's account in order to better understand the psychopathology of temporality, as well as designing new empirical studies.

References

Augustine, Saint. *The confessions*. Clark, 1876.

Bernet, Rudolf, Iso Kern, and Eduard Marbach. *Introduction to Husserlian phenomenology*. Northwestern University Press, 1993.

Bob, P., & Mashour, G. A. (2011). Schizophrenia, dissociation, and consciousness. *Consciousness and Cognition*, 20(4), 1042-1049.

Split Mind in a Split time

de Warren, Nicolas. "Augustine and Husserl on Time and Memory." *Quaestiones Disputatae* 7, no. 1 (2016): 7-46.

Dyke, Heather, and Adrian Bardon, eds. *A Companion to the Philosophy of Time*. Malden: Wiley-Blackwell, 2013.

Fuchs, T. (2005). Implicit and explicit temporality. *Philosophy, Psychiatry, & Psychology*, 12(3), 195-198.

Fuchs, Thomas. "Temporality and psychopathology." *Phenomenology and the cognitive sciences* 12, no. 1 (2013): 75-104.

Fuchs, Thomas. "The temporal structure of intentionality and its disturbance in schizophrenia." *Psychopathology* 40, no. 4 (2007): 229-235.

Fuster, J. M. (2003). *Cortex and mind: Unifying cognition*. Oxford University Press, USA.

Hausheer, Herman. "St. Augustine's conception of time." *The Philosophical Review* 46, no. 5 (1937): 503-512.

Lohmar, D., & Yamaguchi, I. (Eds.). (2010). *On time-New contributions to the husserlian phenomenology of time* (Vol. 197). Springer Science & Business Media.

Nankov, Nikita. "The Narrative of Ricoeur's Time and Narrative." *The Comparatist* 38 (2014): 227-249.

Ricoeur, Paul. *Time and narrative*. Vol. 3. University of Chicago Press, 2010.

Russell, Matheson. *Husserl: A guide for the perplexed*. Bloomsbury Publishing, 2006.

Sokolowski, Robert. *Introduction to phenomenology*. Cambridge university press, 2000.

Stanghellini, Giovanni, Massimo Ballerini, Simona Presentza, Milena Mancini, Andrea Raballo, Stefano Blasi, and John Cutting. "Psychopathology of lived time: abnormal time experience in persons with schizophrenia." *Schizophrenia bulletin* 42, no. 1 (2016): 45-55.

Tandon, Rajiv, Wolfgang Gaebel, Deanna M. Barch, Juan Bustillo, Raquel E. Gur, Stephan Heckers, Dolores Malaspina et al. "Definition and description of schizophrenia in the DSM-5." *Schizophrenia research* 150, no. 1 (2013): 3-10.

Vogele, Kai, and Christian Kupke. "Disturbances of time consciousness from a phenomenological and a neuroscientific perspective." *Schizophrenia Bulletin* 33, no. 1 (2007): 157-165.

Wehrle, Maren. "Being a body and having a body. The twofold temporality of embodied

Split Mind in a Split time

intentionality." *Phenomenology and the Cognitive Sciences* (2019): 1-23.

Williford, Kenneth. "Husserl's hyletic data and phenomenal consciousness." *Phenomenology and the cognitive sciences* 12, no. 3 (2013): 501-519.

Zahavi, D. (2003). Inner time-consciousness and pre-reflective self-awareness. *The new Husserl: A critical reader*, 157-180.