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Primal impression and enactive perception

Shaun Gallagher and Dan Zahavi

Philosophers and cognitive scientists have recently argued that perception is enactive (e.g., Varela, Thompson and Rosch 1991; Noë 2004; Di Paolo 2009).¹ To put it simply, perception is action-oriented. When I perceive something, I perceive it as actionable. That is, I perceive it as something *I can* reach, or not; something *I can* pick up, or not; something *I can* hammer with, or not, and so forth. Such affordances (Gibson 1977, 1979) for potential actions (even if I am not planning to take action) shape the way that I actually perceive the world. One can find the roots of this kind of approach in the pragmatists (e.g., Dewey 1896), but also in phenomenologists like Edmund Husserl, Martin Heidegger, and Maurice Merleau-Ponty. Merleau-Ponty (1962) is most often cited in this regard, but Merleau-Ponty himself points us back to Husserl's analysis of the "I can" in *Ideen II* (Husserl 1952), and to his analysis of the correlation between kinaesthetic activation and perception (1973; see Zahavi 1994 and Gallagher and Zahavi 2008 for further discussion).

With this enactive view in mind, we revisit Husserl's account of time-consciousness. In his analysis the very basic temporal structure, protention-primal impression-retention is said to characterize perception, as the most basic form of cognition, as well as consciousness in general. As such, the temporal structure of perceptual consciousness should in some significant way reflect or enable its enactive character. Our question is this: if perception is enactive, then at a minimum, shouldn't its temporal structure be such that it allows for that enactive character?

¹ Following Varela, Thompson, and Rosch (1991), we take 'enactive' to signify that perception (and cognition more generally) is characterized by a structural coupling between the agentive body and the environment, which is both physical and social, which generates action-oriented meaning.

In the first part of this essay we provide a brief account of Husserl's classical analysis. We then proceed to focus on the concept of primal impression by considering various objections that have been raised by Jacques Derrida and Michel Henry, who basically argue in opposite directions. Derrida emphasizes the relationality of time-consciousness and downplays the importance of the primal impression, whereas Henry emphasizes the irrelationality of time-consciousness and downplays the importance of protention and retention. In a further step, we consider some of Husserl's later manuscripts on time, where he revises his original privileging of the primal impression. In the final section we turn to the question of an enactive temporal structure.

Husserl's classical analysis of time-consciousness

One of the basic questions that Husserl seeks to provide an answer to in his famous lectures on time-consciousness is the following: How is it possible for us to be conscious of temporal objects, objects with a temporal extension. How is it possible to be conscious of objects such as melodies, which cannot appear all at once, but only unfold themselves over time? Husserl's well-known thesis is that a perception of a temporal object (as well as the perception of succession and change) would be impossible if consciousness merely provided us with the givenness of the pure now-phase of the object, and if the stream of consciousness were a series of unconnected points of experiencing, like a string of pearls. If our perception is restricted to being conscious of that which exists right now, it would be impossible to perceive anything with a temporal extension and duration, for a succession of isolated, punctual, conscious states does not as such enable us to be conscious of succession and duration. But this consequence is absurd. Thus, consciousness must in some way transcend the punctual now, and be conscious of that which has just been and is just about to occur. But how is this possible? How can consciousness be conscious of that which is no longer or not yet present?

According to Husserl, Brentano held the position that it is our re-presenting (*vergegenwärtigende*) acts which permit us to transcend the now-point. We perceive that which is now, and we imagine, remember, or anticipate that which does not yet or no longer exists (Husserl 1966a, 10-19). Husserl rejects this explanation, however, since it implies that we cannot *perceive* objects with temporal duration. Basically, his alternative is to argue that the basic unit of perceived time is not, as James (1890) had termed it, a 'knife-edge' present, but a 'duration-block', i.e., a temporal field (a "specious present") which contains all three temporal modes, present, past and future.² Let us assume that I am hearing a triad consisting of the tonal sequence C, D, and E. If we pay attention to perception the instant tone E sounds, we will not find a consciousness occupied exclusively with this tone alone,

² In James (1890, I. pp. 609-610) one finds a related account. For a comparison of Husserl's and James's philosophy of time, cf. Cobb-Stevens (1998) and Gallagher (1998).

but a consciousness of the broader sequence E, D, and C. When I hear the tone E, I am still conscious of the tones D and C, but not as remembered. Rather I am still *hearing* these tones as part of an on-going sequence. This is not to say that there is no difference between our consciousness of the present tone E and our consciousness of the tones D and C. D and C are not simultaneous with E; they are past tones, and, just so, they are *intuited as past*, and it is exactly for this reason that we can say that we *hear* the triad in its temporal succession and not merely as isolated tones replacing each other abruptly.

Husserl employs three technical terms to describe the structure of this temporal field. There is (1) a *primal impression*, which is the component of consciousness that is narrowly directed toward the now-phase of the object. Husserl is very clear about the fact that the primal impression cannot be thought independently of its temporal horizon (Husserl 1966b, 315, 337-338) – it never appears in isolation but is an abstract component that, by itself, cannot provide us with awareness of a temporal object. It is accompanied by (2) a *retention*, which is the component that provides us with a consciousness of the just-elapsed phase of the object, i.e., it allows us to be aware of the object or event as it sinks into the past, and by (3) a *protention*, the component that, in a more-or-less indefinite way, intends the phase of the object about to occur. The role of protention is evident in our implicit and unreflective anticipation of what is about to happen as experience progresses.

According to Husserl's analysis, experience of any sort (perception, memory, imagination, etc.) has a common temporal structure such that any moment of experience contains a retentional reference to past moments of experience, a current openness (primal impression) to what is present (which may be, e.g., a currently activated note in a remembered or imagined melody), and a protentional anticipation of the moments of experience that are just about to happen. Consciousness involves the generation of a field of lived presence. The concrete and full structure of this field is determined by the *protention-primal impression-retention structure of consciousness*. Although the specific experiential contents of this structure from moment to moment progressively change, at any given moment this threefold structure is present (synchronically) as a unified whole.

In this way, it becomes evident that concrete perception as original consciousness (original givenness) of a temporally extended object is structured internally as itself a streaming system of momentary perceptions (so-called primal impressions). But each such momentary perception is the nuclear phase of a continuity, a continuity of momentary gradated retentions on the one side, and a horizon of what is coming on the other side: a horizon of 'protention,' which is disclosed to be characterized as a constantly gradated coming (Husserl 1962, 202).

Thus, on Husserl's account a perception cannot merely be a perception of what is now: rather any perception of the present phase of an object, includes a retention of the just-past phase and a protention of the phase of the object about to occur (Husserl 1966b, 315). Phrased differently, perceptual presence is not punctual, it is a field in which now, no-longer-now and not-yet-now are given in a horizontal gestalt. This is what is required if perception of succession and duration is to be possible.

Both retention and protention have to be distinguished from the proper cognitive acts of recollection and anticipation. There is an obvious difference between retaining and protending the tone which has just passed and is just about to occur, on one hand, and remembering one's tenth birthday or looking forward to next Christmas, on the other. Whereas the latter are full-fledged and explicit intentional acts which presuppose the work of retention and protention, retention and protention are structural components, implicit moments of such acts of consciousness. They do not provide us with new intentional objects, but with a consciousness of the present object's temporal horizon. Whereas the retention and protention occur passively without any active contribution from our side, explicit anticipation and recollection are acts which we can initiate voluntarily. Retention, in contrast to recollection (memory proper) is an immediate intuition or holding in presence of something that has just been present; recollection is a presenting (or "re-presenting" [*Vergegenwärtigung*]) of a past event (Husserl 1966a, 41, 118, 330).

Since the presenting function of perception or memory, or any such cognitive act, depends upon the contribution of retention, as a structural feature, and its ability to retain that which has just been present, it would be wrong to identify the intuitively given with that which in a narrow sense is present, namely the punctual now-phase of the object. It is, in part, for this reason that Husserl claims that the analysis of retention has led to a significant widening of the phenomenological field (Husserl 1966b, 324-325, 1973, 162).

Let us emphasize that temporal experience, for Husserl, is not an object occurring *in* time, but neither is it merely a consciousness *of* time; rather it is itself a form of temporality, and ultimately the question to ask is whether it makes sense to ascribe temporal predicates to time itself. Perhaps this worry can explain some of Husserl's occasionally somewhat enigmatic statements. Even if we ascribe some kind of temporality to the stream of consciousness due to its dynamic and self-differentiating character, we should not conflate the temporality that is intrinsic to consciousness itself with the kind of temporality that pertains to the objects of consciousness. Husserl would reject the claim that there is a temporal match or isomorphism between the stream of consciousness and the temporal objects and events of which it is conscious. The relations between protention, primal impression and retention are not relations among items located within the temporal flow; rather these relations constitute the flow in question. In short, we

have to distinguish the objects that are constituted as temporal objects in the way they are structured by protention, retention and primal impression from the relation between the constituting structures of consciousness itself. Just as my experience of a red circle is neither circular nor red, there is a difference between the temporal givenness of the intentional object and the temporal givenness of the experience itself. They are not temporal in the same manner. It makes, as Husserl writes, no sense to say of the time-constituting phenomena (the primal impressions, retentions, protentions) that they are “present”, “past”, or “future” in the way empirical objects are (Husserl 1966a, 75, 333, 375-376). Rather it is their very conjunction which makes possible the senses of present, past, and future.

Some critical perspectives

Husserl’s analysis of inner time-consciousness has given rise to a number of heated debates within phenomenology. Derrida, for example, attempted to demonstrate that all meaning, being, and manifestation, including the self-givenness of subjectivity, far from being original and simple, are products of an irreducible process of differentiation (Derrida 1967, 68, 70). Derrida’s argumentation is decisively inspired by his reading of Husserl. It was Husserl’s own analyses which, according to Derrida, made it clear that it is impossible to speak of the simple self-identity of the present (Derrida 1967, 71).

According to Derrida it would be impossible to understand the relation between retention and primal impression, and to comprehend the perpetual retentional modification, if the primal impression were a simple and completely self-sufficient ground and source. The primal impression is always already furnished with a temporal density, and the retentional modification is not a subsequent addendum to, but an integrated part of the primal impression. Rather than being a simple and undivided unity, the present can only appear as present due to the retentional modification, due to the irreducible otherness (non-present) of the past. Presence is differentiation; it *is* only in its intertwining with absence (Derrida 1990, 120, 123, 127).

One then sees quickly that the presence of the perceived present can appear as such only inasmuch as it is *continuously compounded* with a nonpresence and nonperception, with primary memory and expectation (retention and protention). These nonperceptions are neither added to, nor do they *occasionally* accompany, the actually perceived now; they are essentially and indispensably involved in its possibility (Derrida 1967, 72).

For Derrida, it consequently proves necessary to distinguish the pure primal impression, which is an empty *a priori* possibility, a theoretical limit-case, and the phenomenological present, which only

appears as genetically complex, modified by retention and protention. We might infer that there must be something like a primal impression, but it is never experienced as such. The primal impression will always be gone before it can be fixed by consciousness. To be punctual and to be experiencable are exclusive determinations. For this reason it is necessary to ascribe a transcendental, that is, a constitutive significance, to a non-presence in self-awareness (Derrida 1990, 166, 1967, 5).

To be more precise, self-presence must be conceived as an originary *difference* or *interlacing* between now and not-now, due to the intimate relation between primal impression and retention. Consciousness is never given in a full and instantaneous self-presence, but presents itself to itself across the difference between now and not-now. Presence is possible thanks to the retentional trace. It emerges on the background of a non-identity; it is haunted by the alterity of the absent and always presupposes an *othering* (Bernet 1994, 216, 235, 283).

As soon as we admit this continuity of the now and the not-now, perception and nonperception, in the zone of primordially common to primordial impression and primordial retention, we admit the other into the self-identity of the *Augenblick*; nonpresence and nonevidence are admitted into the *blink of the instant*. There is a duration to the blink, and it closes the eye. This alterity is in fact the condition for presence [...] (Derrida 1967, 73).

One somewhat disturbing implication of this is that consciousness appears to itself not as it is, but as it has just been. Initially, the initiating moment is unconscious, and it only gains self-presence *nachträglich* through the retentional modification.³

Now, whereas Derrida argued that Husserl failed to draw the full implications of his discovery of the retentional modification, we find the exact opposite criticism in Henry, namely, that Husserl assigned too great significance to the work of retention. Whereas post-Husserlian phenomenology has generally tried to rectify what was believed to be an imbalance in Husserl's account of the relation between immanence and transcendence, namely his disregard of *exteriority*, Henry has accused Husserl of never having managed to disclose the true *interiority* of subjectivity in a sufficiently radical and pure manner. Thus, according to Henry, the basic problem in Husserl's phenomenology is not that it somehow remained unable to free itself from immanence, but on the contrary, that it kept introducing external elements into its analysis of this immanence. As Henry suggests, it is downright absurd to accuse Husserl of having advocated a philosophy of pure presence, since Husserl never managed to conceive of a presence liberated from the horizon of non-presence (Henry 1989, 50). To put it differently,

³ For a criticism of this idea, cf. Zahavi (1999 and 2003).

Henry argues that Husserl mistakenly sought to analyze the self-presence of consciousness in terms of the ecstatic-centered structure of protention-primal impression-retention. According to Henry, however, this introduces a retentional mediation into the core of self-manifestation, and thereby furnishes it with a complexity that is utterly foreign to its nature (Henry 1990, 49-50).

Against this background it is hardly surprising that Henry rejects Derrida's claim that the self-manifestation of the primal impression is due to the intervention of the retention, and that subjectivity only gains self-presence in temporal adumbrations. Indeed, Henry goes so far as to claim that the dimension of primary self-manifestation is non-ecstatic, non-temporal, and non-horizonal (Henry 1963, 576, 349). It is non-horizonal insofar as the manifestation does not presuppose or entail a reference to anything transcendent or absent. It is non-ecstatic in the sense that the living ego never appears to itself across a recollection or oblivion; and it is immediate in the strict sense of being neither mediated nor delayed. We are ultimately dealing with a self-presence characterized by its complete unified self-adherence and self-coincidence (Henry 1963, 858), and this unity is neither constituted (by anything else) nor is it extended in protentions and retentions (Henry 1965, 139).

Although both Derrida and Henry end up criticizing Husserl's theory of inner time-consciousness, they both remain deeply influenced by his account.⁴ At the same time, however, both also seem to end up defending positions that are themselves too radical. The question is whether Husserl's own account might not provide us with a sound position that avoids the opposing excesses of both Henry and Derrida.

At first sight, Derrida's description of the relation between primal impression and retention appears somewhat misleading. Although one might characterize the relation between primal impression and retention as a question of internal differentiation, it is strictly speaking erroneous to characterize it with terms like 'delay' and 'absence'. As it was pointed out above, retention and protention are not past or future in regard to the primal impression. They are 'together' with it, and the self-manifestation of enduring consciousness consequently possesses the full structure protention-primal impression-retention. Thus, it is not the retention, but that which is given in it, namely, the retained, which is past, an absence kept in presence. Ultimately, Derrida's argumentation contains a puzzling tension. On the one hand, he wants to stress the intimate connection and continuity between primal impression and the retention. It is a falsifying abstraction to speak of them in isolation and separation. But, on the other hand, he also wants to describe the retention as being different from and foreign to the primal impression. Only this will allow him to

⁴ Henry in *Phénoménologie matérielle* describes Husserl's *Vorlesungen zur Phänomenologie des inneren Zeitbewußtseins* as the most beautiful philosophical work in our century (1990, p. 31).

speak of impressional self-awareness as being mediated and constituted by the alterity of the retention.

Whereas Derrida argues that retention has priority over primal impression, Henry argues that primal impression has priority over retention. The question though is whether any of these alternatives are really attractive. Taken in isolation, the primal impression is an abstraction and theoretical limit-case. It is in fact never given alone. The concrete and full structure of the lived presence, according to Husserl, is protention-primal impression-retention (Husserl 1966b, 317, 378). It is 'immediately' given as an ecstatic unity and is not a gradual, delayed or mediated process of self-unfolding. Lived presence has an internal differentiation, an original complexity, but to speak of it as being mediated or delayed is to remain determined by a conception which sees primal impression and retention as two different and separate elements. One has to avoid the idea of an instantaneous, non-temporal self-presence, but one must also stay clear of the notion of a completely fractured time-consciousness which makes both consciousness of the present and of the unity of the stream unintelligible.

Husserl's revision

So far we presented a brief survey of Husserl's standard depiction of the structure of inner time-consciousness, centered on the three components of primal impression, retention and protention. We then looked at two quite different phenomenologically motivated criticisms of Husserl's account and considered what a likely Husserlian response would amount to. Let us now move forward and take a look at some of Husserl's later texts on time-consciousness, in particular his so-called *Bernau Manuscripts* which were written around 1917-1918. What we will find there is Husserl's own revision of the original tripartite account. The main difference is that the primal impression (or as Husserl calls it in the *Bernau Manuscripts*: the 'primal presentation') rather than being the origin and point of departure is considered the result of an interplay between retention and protention. Compare for illustration the two following quotations. The first is from the original lectures on time-consciousness, the other from the Bernau Manuscripts:

The primal impression is something absolutely unmodified, the primal source of all further consciousness and being. Primal impression has as its content that which the word "now" signifies, insofar as it is taken in the strictest sense. (Husserl 1966a, 67).

The now (i.e., the primal presentation) is the boundary between two different 're-presentational' acts, the retentions and protentions. (Husserl 2001, 4).⁵

⁵ We note some shifting terminology here. In many other places Husserl makes it clear that while acts of recollection or expectation are certainly

In short, whereas the retentions and protentions in the early lectures were defined vis-a-vis the primal impression, in his later research manuscripts, Husserl argues that the primal impression must be considered the line of intersection between the retentional and protentional tendencies that make up every momentary phase of consciousness. Just as in his earlier account, Husserl continues to claim that the primal presentation by itself doesn't present at all, it is not self-sufficient, rather its presenting occurs only in connection with retentions and protentions. But in addition, and this is where the *Bernau Manuscripts* are more radical, Husserl also seems to suggest that the complicated interlacing of retentions and protentions is constitutive of presence. The primal impression is not only non-self-sufficient, it is a constitutive product rather than something with a constitutive contribution of its own. This more radical claim is for instance brought to light in Husserl's idea that the point of departure rather than being the primal impression (or primal presentation), is the empty anticipation:

First there is an empty expectation, and then there is the point of the primary perception, itself an intentional experience. But the primary presentation comes to be in the flow only by occurring as the fulfillment of contents relative to the preceding empty intentions, thereby changing itself into primal presenting perception [Zuerst ist eine leere Erwartung, und dann ist der Punkt der Urwahrnehmung, die selbst ein intentionales Erlebnis ist. Aber dieses wird doch im Fluss erst durch Eintreten der Urpräsenzen als füllende Inhalte in die vorhergehende Leerintentionen, die sich damit wandelt in urpräsentierende Wahrnehmung] (Husserl 2001, 4).

In short, the primal presentation is conceived as the fulfilment of an empty protention; the now is constituted by way of a protentional fulfilment (Husserl 2001, 4, 14). Occasionally, Husserl even describes the matter in a way that doesn't mention the primal impression at all:

Each constituting full phase is the retention of a fulfilled protention, which is the horizontal boundary of an unfulfilled and for its part continuously mediated protention. [Jede konstituierende Gesamtphase ist Retention erfüllter Protention, welche Grenze eines Horizonts, einer unerfüllten und ihrerseits kontinuierlich mittelbaren Protention ist (Husserl 2001, 8).

re-presentational acts (*vergegenwärtigenden Akten*) retentions and protentions are not. Perhaps we can attribute this slippage in terminology to the fact that the Bernau Manuscripts are working notes rather than a finished document.

The return of the *Urimpression*

Taking Husserl's considerations in the *Bernau Manuscripts* as inspiration, let us reconsider the question that was also at the center of Derrida's and Henry's criticisms, namely the status of the primal impression. We propose to develop the analysis in the direction of genetic and enactive phenomenology.

If we remain with a static phenomenology, the notion of the primal impression plays an important role in the structure of time-consciousness. If, however, we take a more genetic view, the notion of an isolated primal impression seems to be an abstraction and not something that exists in itself. As we have seen, Husserl himself, and some of his commentators, indicate just this: that the concept of the primal impression is an abstraction. As Klaus Held (1966, 19) puts it, "from a phenomenological perspective, there is no such thing as an infinitely short momentary perception" – that is, experientially there is no such thing as an isolated primal impression. On the other hand, however, one could argue that there must be something like a limit or division between retention and protention, aspects which do characterize our experience, but which need to be differentiated.

Lanei Rodemeyer (2006, 33) suggests that primal impression might be considered an overlap between retention and protention. In that case too, it is nothing in itself, but the product of retention and protention, and a paradoxical one since as an overlap it seemingly must be both retention and protention at once. Rodemeyer suggests that Husserl is consistent in conceiving of the experienced now as more than a mere point – "the experiencing now can never be atomized" (2006, 34). This is certainly right, but we shouldn't forget that Husserl doesn't equate the experiencing or the experienced now with primal impression. Rather, in his view the experienced now has the triadic structure due to protention-primal impression-retention.

Any momentary phase of consciousness, which itself is an abstraction, is composed of protention-primal impression-retention. Primal impression is not a momentary phase of consciousness – it's part of the structure of any momentary phase. In that case it is something like an abstraction within an abstraction – it's the structure of a piece of consciousness that has been lifted out of the flow. It is the part of the structure that focuses on the now point of the temporal object. But this focus is not equivalent to a conscious attention, since any conscious attention would itself, in any momentary phase, have the structure of a momentary phase of consciousness, which would include a primal impression.

Let's widen the scope of the discussion. Primal impression is supposedly the consciousness of the now point of the temporal stimulus (S) – e.g., in Husserl's favorite example, the note that is currently being sounded, or more precisely, the current moment of the note that is present. Now with respect to describing what we experience, from the

perspective of phenomenology it is inappropriate to appeal to neurophysiology, which tells us that there is always some delay or distortion introduced between the current moment of a stimulus as it objectively exists, and our awareness of it – a delay or temporal distortion introduced by the mechanisms of neural processing. That is, it takes time for the current moment of S to register through the neural processing and consciously appear as being now. Our experience of S as being now, in this strict momentary sense, is always after the fact – the result of a neurophysiological retention. One might say that our access to the present is always through a small bit of the past, or that we never experience the objective present as such.

These considerations are clearly bracketed out by Husserl, and we can effect this bracketing simply by saying that *the current moment of the note* refers to the current moment of the experienced note. It's not the note as objectively sounded, but the note as experienced. Without appealing to the objective processes of neurophysiology, however, we may still look to certain considerations in the neuroscience of movement, and do so in a way that is more than an appeal to analogy. As some have argued (Berthoz 2000; Gallagher 2005; in press) the protention-primal impression-retention model applies to movement and non-conscious motor processes, as well as it does to consciousness. We could say that human experience and human action are both characterized by a ubiquitous temporality. In this regard, when we look at action we can say that at any one moment the body is in some precise posture – as captured by a snapshot, for example – but that posture is a complete abstraction from the movement since in each case the body is not posturing from moment to moment, but is constantly on the way, in the flow of the movement such that the abstract postural moment only has meaning as part of that process. One could argue that *objectively speaking*, at any moment the body actually is in a specific posture. But if that postural moment is anything, it is the product of an anticipated trajectory, of where the action is heading. Furthermore, we can define that abstract postural moment only when it is already accomplished -- but that means, only in retention, and as an end point of what had been a movement characterized primarily by anticipation.

We should think of consciousness in the same way – as Husserl does – as a flow, where it is intentionally directed in such a way that when I am hearing the current note of a melody I'm already moving beyond it, and such protentional/anticipatory moving beyond is already a leaving behind in retention. What we have as the basic datum of experience is a process, through which the primal impression is already collapsing into the retentive stream even as it is directed forward in protention. Hearing a melody (or even a single note in some context -- and there is always a context) never involves hearing a currently sounded note (or part of a note), *and then* moving beyond it; rather, the "and then" is already effected, already implicit in the experience.

One way to express this is to say that talk of any one of the three components in isolation runs into an abstraction. Our experience of the

present is always dynamic and (because) it is always structured by protention-primal impression-retention. Pre-reflectively, consciousness has this structure. There is no impression of the present taken as a knife-edge; rather, as Husserl suggests, primal impression is already fulfilling (or not) protentions that have already been retained, and in doing so is already informing the current protentional process. This structure constitutes a specious present, and our experience of that is what one might call a *secondary* impression -- i.e., not a primary impression of a knife-edge present, but a secondary (constituted) impression of a specious present. What I experience in this immediate now is a complex presence.

To put it differently, the proposal is not that we should eliminate the primal impression. The point is rather that we should abandon the idea that primal impression is a direct, straight and simple apprehension of some now-point of S that is unaffected by retention and protention. If I perceive a currently sounding note, for example, what I perceive is already modified by my just past and passing awareness of whatever came directly before. In that sense, primal impression is already modified by the retentional performance of consciousness. There is no primal impression that is not already qualified by retention. It is not that in a now phase of consciousness I have a retention of a past phase *plus* a primal impression of a current S. It is not an additive function. The full experience of a melody is not well described by saying that I first experience (in primal impression) note A, and then (in a new primal impression) note B, as I retain note A. Or more precisely, the full experience is not given by

... iA ... followed by ... iB plus r[iA] ...

(where i = primal impression and r = retention).

Rather, iB is already qualified (impacted, transduced, modified) by the just previous experience. For example, in Bach's *Concerto in B minor* the note B-minor sounded at a certain point will sound different from the note B-minor sounded at a certain point in Vivaldi's *Concerto in B minor*. So the primal impression of B is never simply iB; it is iB that works its way through r[iA], that is, through the relevant retentional train of experience. That means that iB would be a different experience if it were preceded not by iA, but by i[~A], just as much as r[iA] would have to be different if in fact it were r[i{~A}].

Consider further the effect of protention (p). First, the primal impression of A, (iA), when occurrent, is producing a determination of what my protentional horizon is -- e.g., a protention of B ... C ...D ... and so on. That is, whatever I anticipate must be modified by what I am currently experiencing. Furthermore, the primal impression of B, (iB), when occurrent, is already qualified by the previous protention (currently retained), whether that was a protention of B (now fulfilled), or something else (now unfulfilled). Generally speaking, then,

- (1) primal impression constrains the current protention, and
- (2) primal impression is constrained by the previous protention.

With respect to (2), this means that the occurrent primal impression is partially either the fulfillment or lack of fulfillment of the previous protention. With respect to (1), primal impression constrains protention, the primal impression provides partial specification of what I am anticipating. Primal impression includes a protentional specification.

Again, it is not

... *iA plus p[B...C...D...]* ...

which is then simply followed by

... *iB plus r[iA + p{B...C...D}] plus p[C ...D...]* ...

Rather, the primal impression of B, (*iB*), already contains specification of the previous (now retained) protention (with continuing reference to C and D as forthcoming) as fulfilled (or as the case may be, as unfulfilled). My occurrent primal impression of B would be different if instead of a protention of B...C...D in the previous phase of experience I had anticipated silence or a different note. The primal impression of B confirming a previous protention of B is different from the primal impression of B disconfirming a protention of \sim B.

One objection to this may be that we have confused the content of experience with the formal temporal properties of the experience. That is, someone could object that the analysis of time consciousness, which is about how one experienced note follows another, is not about the difference between how we hear Bach and Vivaldi. But this objection ignores the fact that what I experience has an effect on the temporality of my experience. If, for instance, I am bored by Bach and find Vivaldi vivacious, then Bach's *Concerto in B minor* will seem to drag on – time will seem to slow down – in contrast to my listening to Vivaldi's concerto. If I'm hungry, or mad, or in pain, retentionally and protentionally experience will be temporally different from my satiated, happy, pain-free listening experience. To that extent, content has an effect on the specifications of the formal structure. As Merleau-Ponty suggests, there is an "influence of the 'contents' on time which passes 'more quickly' or 'less quickly', of *Zeitmaterie* on *Zeitform*" (1968, 184).

Temporal masking is another example of contents determining the experienced temporal order of things. For example, the tonal arrangement of sounds presented in a sequence can affect the perception of that sequence. If in the sequence of sounds ABCDBA, the tones A and B are of a particular low frequency, the order of C and D will be masked. That is, you will not be able to distinguish the order of C and D. You can also vary the tones A and B, so that C will appear to come

before D, or so that D will appear to come before C (see Bregman and Rudnicky 1975). But it's not simply that the conscious retention of A and B determines the phenomenal order of C and D, since the later sounds of B and A are also required to get these effects. That is, the sounds that follow C and D in the objective sequential order will also determine the way C and D play out on the conscious level.⁶

Consider, as another example, that in many cases the meaning of a word in a sentence is deferred until a phrase or the sentence is complete, so that the word itself, as it is read or sounded, motivates a certain anticipation towards the fulfillment of its meaning. The word 'cases' in the previous sentence is an example. It doesn't refer to a container (e.g., cases of wine), or to grammatical cases (cases of a noun or pronoun); but its meaning is already anticipated before that ambiguity gets resolved, and the remainder of the sentence fulfills that anticipation. If the content of the paragraph that preceded this paragraph had been about a grammatical point, then it could have biased my anticipation of the meaning of the word 'cases', and clearly my subsequent primal impressions would have been different since they would not have fulfilled the prior protention. Such things often slow down our reading and make us go back over text to get clarification.⁷ Of course one can still say that there is some level of formal temporalization that remains invariant – whatever the content, or whatever the phenomenological velocity or experienced serial order, or the implicit temporality of the object itself, I do experience a sequence in which some S precedes another. But what S that happens to be, and what order it comes in, and how fast it happens to swim by, make all the difference in experience.

In one respect we can say that primal impression targets the current moment of the object S. But not without already being infected by (being influenced by) the retentional train of what has just happened, and by the protentional horizon of whatever is anticipated. To talk of primal impression as intuiting the current moment without insisting on the effects of retention and protention already at work, shaping primal impression, is to talk of an abstraction. If we say that primal impression is part of the structure of the living present -- that's true, but it's not enough. We also have to say that the primal impression is itself structured by its very dynamic participation in its relations to retention and protention (and vice versa, of course). My primal impression of the current moment is influenced by the retentional train -- it's not just the abstract beginning point of that train as if the business of retention was strictly about the past and had no influence on the present. And, my primal impression of the current moment is already influenced by protention -- not only the current protention (although perhaps that one

⁶ The effect here is similar to the *phi* phenomenon, where the color of a dot that appears later has an effect on my experience of the apparent color of the apparently moving dot.

⁷ Other examples of effects of content on experienced temporal sequence can be found discussed in Gallagher (1998).

especially), but also by previously retained protentions.

It thus starts to look like time-consciousness has a fractal character. Having distinguished primal impression from retention and protention, in the protention-primal impression-retention structure, any closer examination of primal impression (or retention or protention) finds that same structure repeated – again, not in an additive way, but in a kind of fractal effect. This is not an overlap (as Rodemeyer suggests), but an effect that multiplies itself in such a way that any attempt to define primal impression in itself always finds the effects of retention or protention already included. It is consistent with Husserl's indication that "it pertains to the essence of conscious life to contain an intentional intertwining, motivation and mutual implication by meaning ..." (although whether it does so "in a way which in its form and principle has no analogue at all in the physical" [1977, p. 26] is an issue that we set aside here; see Thompson 2008, p. 356 for discussion).

Here, perhaps, is one way to think of this -- and it's why we suggest the image of the fractal: The structure of the living present – the now phase of consciousness – is protention-primal impression-retention. But each element also reflects this structure again – primal impression, by itself, is an abstraction, but to think it *in* this structure is to think it *with* (or *having*) this structure – primal impression, in its intentional functioning, reflects the retentive and protentive components, and vice versa.

What this amounts to is that there is no primal impression -- no current intuition of the present S -- without it already being anticipatory (on the basis of what has just occurred), so that my primal impression of the present is already involved in an enactive anticipation of how S will work out. Protention, primal impression, and retention are in an *enactive* structure in regard to S in the sense that a certain anticipatory aspect (already shaped by what has just gone before) is already complicating the immediacy of the present. Consciousness is not simply a passive reception of the present; it enacts the present, it constitutes its meaning in the shadow of what has just been experienced, and in the light of what it anticipates.

This view is not equivalent to treating primal impression as an 'overlap'; it doesn't deny that there is a primal impression; it doesn't conceive of primal impression as simply the passive product of retention and protention; but it does conceive of retention and protention as contributing to the constitution of primal impression (and vice versa) -- consistent with the idea of a self-constituting flow. The unity of consciousness at this level is not a static unity, or an additive kind of unity, but an enactive unity. There is no primal impression without retention and protention; there is no retention or protention without primal impression.

What the primal impression is, then, and how it relates to retention and protention, are not independent from the intentional nature of consciousness, or from the specific content that we experience. This means that the temporal structure of consciousness should be

considered as in-the-world, and in very pragmatic terms. We take this to be a positive way to account for the temporality of consciousness that lines up well with Husserl's conception of embodied experience as an "I can." In contemporary terms, we can think of this as an *enactive* phenomenon. My hearing of the melody, for example, is not a passive reception of the sound. My hearing of any one note is a hearing directed toward the next note – that is, I only hear one note as the anticipation of the next note, or the next bit of silence – as something that is leading somewhere – and I never hear it just on its own. Again, as Husserl put it, "every living is living towards (*Entgegenleben*)." This anticipatory intentionality is not an apprehension of an absence (*entgegenwärtigung*), in the sense that it is directed toward the not yet; it is rather an apprehension of the possibilities or the affordances in the present, of what S *can be* for my experience, possibilities that will be fulfilled or not fulfilled as our enactive perception trails off in retention.

The important question, in contrast to the inclinations of Derrida and Henry, is not whether any one element has priority. Primal impression, retention, and protention are not elements that simply add themselves to each other. They are rather in a genetic relation; they have a self-constituting effect on each other.

Moreover, they, together, constitute the possibility of an enactive engagement with the experienced world (the object, the melody, etc.). Just as I perceive the hammer as affording the possibility of grasping it, or in a different circumstance, as affording the possibility of propping open my window, I likewise perceive the melody as affording the possibility of dancing or sitting in peaceful enjoyment, etc. The point, however, is not about hammers versus melodies. It's about the temporality of affordances and enactive engagements. Nothing is an affordance for my enactive engagement if it is presented to me passively in a knife-edge present; that is, nothing would be afforded if there were only primal impressions, one after the other, without protentional anticipation, since I cannot enactively engage with the world if the world is not experienced as a set of possibilities, which, by definition, involves the not-yet. And just as nothing would be possible if there were only primal impressions without a retentional-protentional structure, so too if there were no primal impression. If there were only retentions, everything I experience would already have just happened; we would be pure witnesses without the potential to engage. If there were only protentions, there would only be unfulfilled promises of engagement. Meaning itself would dissipate under any of these conditions.

Thus, the enactive character goes all the way down, into the very structure of time-consciousness, and one doesn't get this enactive character without an integration of all three components. What we are suggesting here is that experience has an enactive character, not only on the act or action level, but in its most basic self-constituting, self-organizing level, in its very temporal micro-structure.

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