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Kristina Knowles

»No Doubt They are Dream-Images«

Meter and Memory in George Crumb's *Dream Images* from *Makrokosmos Volume 1*

In his 1896 monograph, *Matière et Mémoire*, Henri Bergson provides an evocative description for the act of recollection, suggesting it involves a disengagement from the present moment »in order to replace ourselves, first in the past in general, then in a certain region of the past – a work of adjustment, something like the focusing of a camera.«¹ The imagery evoked here consists of a hazy and ill-formed picture whose outlines gradually sharpen, forming something recognizable. Yet this recollection, though coming into the forefront of one's attention, remains distinct from the present moment, retaining a sense of ›pastness‹. As Bergson notes, »if. . . it did not retain something of its original virtuality, if, being a present state, it were not also something which stands out distinct from the present we would never know it for a memory.«² Bergson's description of the process of recollection is an apt characterization of how George Crumb sets his musical quotations from Frédéric Chopin's *Fantasie-Improvisation* within his piece, *Dream Images* from *Makrokosmos Volume 1*.

The first quotation, occurring approximately one minute into the composition, originally appears hazy and indistinct. A rhythmically and tonally dissonant musical fragment, dynamically soft, it gradually comes into the foreground, sharpening in focus and gaining in clarity as the metrical conflict between this quotation and the preceding motive is slowly ameliorated, the quotation becoming the central focus of the listeners' attention as it emerges from the preceding unmeasured context. Yet, despite ›coming into focus‹ as the dominant auditory image that captures our attention, the quotation simultaneously carries a sense of ›otherness‹. A foreign intrusion on the introspective and repetitive musical material that precedes it, this excerpt fits Bergson's description of a recollection as being both a part of the present and simultaneously distinct from it. One of the

1 Bergson 1962, p. 171.

2 Ibid.

elements that contributes to this perception of otherness is the contrast between the weakly metrical motive that dominates the opening of *Dream Images* and the emergence of a strong meter with the Chopin quotation. This process of metrical emergence not only mimics the process of recollection described by Bergson, but also affects our perception of time within the movement. Using Bergson's theory of memory as an interpretive lens, we can understand Crumb's treatment of the Chopin quotations and his manipulation of temporal elements as a musical representation of the nature of memory as portrayed in *Dream Images*. Since Bergson's description of recollection forms the foundation on which this interpretation is built, it is with his theory of memory that I begin.

Bergson's Theory of Memory

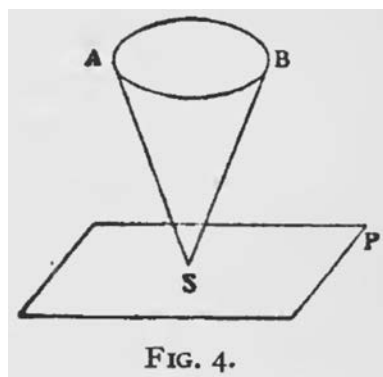
Within his work, Bergson identifies two types of memory that, while distinct in nature and kind, consistently interact both with each other and with our present moment. The first of these is habit, a type of memory that is understood to act more as a process which, once set into motion, continues automatically and without thought or attention. Consider, for example, tying your shoe or riding a bike. The learning of such processes is always labor intensive, as each of these acts is broken down into several steps that, when first learned, require conscious effort, attention, and awareness. Yet, inevitably, repetition affords automaticity, each pass through the sequence becoming more fluid and connected until eventually the sequence, once initiated, continues without conscious awareness, the necessary steps ingrained in the body.³ As such, habit is something that is lived and acted, and which, while seated in the present, is future-oriented, each action preparing for the next.

Meanwhile ›memory-images‹,⁴ Bergson's second type of memory, are representational, and connect us to our past. Memory-images consist of events that have a unique date and time, moments that occur only once. While habits and the actions that comprise them take a specific amount of time to be performed, a memory-image can last for any length of time. We can represent a specific

3 Any number of activities can be construed as habits so long as the sequence of actions which comprise them have achieved some level of automaticity such that the individual need not consciously attend to the separate steps that comprise the activity. To put it another way, any repeatable action or response to environmental stimuli has the potential to become a habit.

4 Bergson 1962, p. 92.

event pictorially, compressing its duration, or alternatively, replay the event in slow-motion, conferring upon the memory a time that exceeds the original event. Beyond differences deriving from temporal constraints, Bergson suggests that habit forms a type of memory that is dependent upon our will, enacted when and where we choose, while memory-images appear spontaneously. »Of these two memories... the first [habit], conquered by effort, remains dependent upon our will; the second [memory-images], entirely spontaneous, is as capricious in reproducing as it is faithful in preserving.«⁵ Bergson goes on to note that memory-images have the potential to overwhelm us with representations of past events, obscuring or confusing our present perception. Thus, Bergson's separation of these two types of memory is only theoretical; in reality, the action-based and embodied habit inhibits all memory-images from entering our present consciousness, save those that can inform or add to the current perception. This conception of how memory works applies to our day-to-day living, in which processes such as recognition and identification operate by pulling information in the form of memory-images from long-term storage; such memory-images are relevant for our response to current, ongoing perception. This response itself is influenced in part by habits that determine our attitudes and actions in the face of various stimuli or environmental contexts.



Example 1: Figure 4 from Bergson's *Matière et Mémoire* (1962, p. 197)

While such processes apply to our use of memory within our everyday life, *recollection* involves a more conscious and effortful retrieval of a specific memory.⁶ Consider Bergson's cone of memory (Example 1). At the top of the cone exists

5 Ibid., p. 102.

6 Within Bergson's theory of memory, recollection is a special type of memory-image, one that is actively and deliberately sought rather than emerging in response to specific situations or arising unbidden to the forefront of one's consciousness.

all of our pure memories, which cannot be consciously accessed. The process of recollection, then, involves an intentional effort to bring the memory gradually into the present moment, represented in Example 1 by the horizontal plane. As the pure memory moves from the unconscious to our present consciousness, it becomes a memory-image and blends with the present, a process that for Bergson takes place in the body. Since he views the present as sensorimotor in nature,⁷ an actualization of a memory-image in our present moment has a direct effect on our body – it becomes, in essence, a ›lived‹ memory. To put it another way, recollection is a specific way of ›remembering‹ that involves a conscious effort to bring forth a memory that we then experience, or perhaps re-experience, in our body. In describing this process, Bergson suggests that »pure memories, as they become actual, tend to bring about, within the body, all the corresponding sensations. But these virtual sensations themselves, in order to become real, must tend to urge the body to action.«⁸

A connection can be drawn between this process of a memory coming into the present to become an embodied memory, interacting in the process with our habitual sensorimotor ways of being, and the process of meter emerging out of an unmetred context and having an effect on the body as it does so. The ability of emergent meter to move the listening body, even if such movement is internally felt rather than externally expressed, rests on the process of entrainment.

Meter and Memory

The close interaction between music and movement has long been acknowledged by music scholars and psychologists alike. In his 2012 study on groove, Petr Janata observes »whether it is through the subtle marking of time by means of minuscule head bobs or toe taps or through elaborate dance moves, the engagement of people’s motor systems while listening to music is common-place and seems to have an almost automatic, irresistible quality to it.«⁹ More often than not, this movement in response to music is synchronized with its repeating, periodic elements, those structural characteristics that we attribute to meter – a process referred to as entrainment.¹⁰

7 Bergson 1962, p. 179.

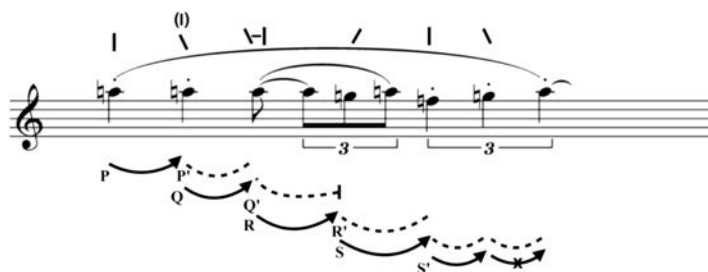
8 Ibid., p. 168.

9 Janata et al. 2012, p. 54.

10 For an in-depth explanation of the process of entrainment, see Large/Jones 1999.

A number of psychological studies have demonstrated that listeners have a strong tendency to move in response to meter, and that their physical responses can be attuned (i.e. entrained) simultaneously to multiple levels of meter expressed in the music.¹¹ Even when we are not visually moving in response to musical meter, neurological studies have shown that motor regions of the brain are still activated when listening to music.¹²

Because of our automatic tendency to entrain to periodic stimuli, the change in rhythm generated by a meter emerging from a metrically ambiguous or un-metered context will grab the attention of the listener as they begin to synchronize with the emergent regularity. Once the listener is entrained, however, they no longer need to attend as closely to the meter, as they have become habituated to its regularity. Within the context of *Dream Images*, the arpeggiated bass line of the first Chopin excerpt serves as the element that originally grabs our attention as its metrical structure emerges from the surrounding context. By the time the melody comes in, the listener has entrained to the meter of the Chopin excerpt, allowing attention to shift to the melody.



Example 2: A reproduction of the ›Dream‹ motive from G. Crumb’s *Dream Images*, with a projective analysis

The perceptual contrast that underlies this process is generated by the varying rhythmic and metric structures that differentiate the emerging Chopin quotation from the primary motive that precedes it. Consider the projective analysis¹³ of

11 Toivianen et al. 2010.

12 Grahn/Brett 2007; Chen et al. 2008; Iverson 2009; Patel/Iverson 2014.

13 I utilize Christopher Hasty’s theory of projection (1997) to analyze rhythm and meter within *Dream Images*, as his theory allows for the description of durational relationships within passages that lead to the emergence of meter, as well as those that encapsulate a metric potential that is never actualized. In addition, his processive approach to meter, with its emphasis on describing an in-time listening experience, affords a closer comparison to Bergson’s description of memory as process than do other methods. Within the analytical notation, solid arcs indicate

bass fills in the silence following the motive, initiating¹⁵ a varied repetition of the motive's ending gesture. Heard first within the context of the triplet quarter notes in the upper staff, the arpeggiated bass line generates the projection T-T' and the larger projection U-U'. The presence of the triplet eighth notes creates the possibility for longer projections in the Crumb motives (S-S'), as the faster pulse of the triplet eighth notes provides an underlying continuity for the slower triplet quarter notes. However, as the Chopin quotation grows dynamically, it begins to compete with the Crumb motive in the upper staff, and projection in the Chopin shifts (V-V'). As the repeating motive gradually fades, the listener begins to entrain to the emerging meter of the Chopin, and by the second measure has begun to generate larger projections (W-W', X-X'). With the entrance of the melody, the listener is fully entrained and the projective potential Y spans multiple measures, but is ultimately denied by the *molto ritardando* and omission of the cadential resolution for the phrase. As quickly as it emerged, the meter dissolves.

This process, wherein the emerging meter of the Chopin first comes into consciousness, grabbing the attention and then becoming habituated as, once we are entrained, we embody meter without conscious effort, exhibits similarities with the way in which Bergson discusses the interaction between his two types of memory. According to Bergson, when a memory-image comes into our present consciousness, it interacts with and is inhibited by the memory that sits in the body – that is, habit. Thus, we may view those passages that contain the Chopin quotations as a memory-image that gradually comes into our consciousness, the emerging meter expressed by the music grabbing our attention and our body as we begin to entrain. Within a short time, we become habituated. In this interpretation, the fragment from Chopin's impromptu represents both a memory-image and habit, with meter carrying the role of habit, prolonging the musical memory and supporting the melody, allowing the Chopin excerpt to come fully into the present moment.

While this first quotation may have all the earmarks of a memory-image in the theory of Bergson, arising unbidden into the unfolding present of the musical

15 The continual repetition of the opening motive (with slight variations) throughout the beginning of *Dream Images* suggests that the music is stuck, or alternatively, obsessed with the ›Dream‹ motive, unable to move beyond this musical utterance. It seems plausible that the emergence of Chopin's arpeggiated bass into the silence that typically follows the motive may provide the impetus absent in the musical context of the prior motives, prompting the repetition of the motive's ending gesture and enabling the ›Dream‹ motive to continue beyond its original confines.

fabric, later excerpts from the impromptu within the movement appear as effortful recollections rather than spontaneous memories. As noted above, Bergson suggests that a recollection necessitates an active effort to bring forth a memory. With the first quotation, the end of the ›Dream‹ motive overlaps with the Chopin excerpt, the latter interrupting and gradually overcoming the former as it emerges into the musical foreground. Later quotations, however, appear much more intentional, the preceding musical material changing in metricity to create a smoother transition from one musical style to the next, suggesting a more intentional effort to summon the musical memory of the impromptu. Consider, for instance, the setting for the second quotation, which occurs approximately two minutes into a performance of the piece.¹⁶ The music preceding this moment features a repetition of the final gesture from the ›Dream‹ motive combined with the transposition of this gesture down by thirds. This repetition and registral descent generates an increase in momentum, strengthening the metric potential inherent in the gesture and connecting into the second quotation, as the entrance of the impromptu fragment corresponds with the transposition of the gesture to the pitch *Ab*. This creates a pitch connection as well as a process of metric development that smoothens the transition between the two musical styles.

Perhaps the strongest case for understanding the later quotations of the impromptu as effortful recollections can be made by considering the effect these excerpts have on the music that follows. In the passage after the second quotation of the impromptu, a new gesture enters. Unlike the ›Dream‹ motive that has heretofore dominated the Crumb portions of the piece, this passage conveys a sense of motion as it attempts to recreate the rocking movement of the Chopin. Much as a memory colors our present perception by permeating our consciousness for a time, so too does the Chopin material color the music that follows it, inspiring attempts to recapture its essence. Such attempts, however, pale in comparison to the vitality of the actual memory. Rather than flowing fluidly, the meter in this passage is stilted and awkward, the music eventually losing its momentum and once more becoming hesitant and fragmented. Yet the final slow arpeggiation summons forth one final, short memory, one last echo of the Chopin. This brief return is followed by a final statement of the ›Dream‹ motive, now rife with frustration as the memory of the Chopin slips away once more.

16 The reader is encouraged to listen to a recording of *Dream Images* in order to hear the characteristics of the music described from here on. All references to time points within a performance are based on Robert Groslot's rendition of Crumb's *Makrokosmos* collection (Robert Groslot, *George Crumb – Makrokosmos Vol I & II*, Piano Classics (2) PCL0007, 1982, compact disc).

The Experience of Time in *Dream Images*

Within the interpretive framework proposed here, the metrical emergence of the Chopin quotations is understood as a memory coming into the present consciousness that then becomes embodied, the memory relived as much through the physical actions and responses evoked by the meter as in the ›image‹ of the melody. This creates a dichotomy in *Dream Images* between an unmetred ›present‹, represented by the music composed by Crumb, and a metered ›past‹ in the form of an embodied memory, represented by the fragments of Chopin's impromptu. When the movement of time is considered in relation to these categories of past and present, we often speak of the past as being ›timeless‹, something we turn to in order to escape the inevitable progression of time in the present. Yet when we consider how these contrasting musical sections would be perceived temporally, that is, how a listener's subjective experience of time may be influenced by the music, we arrive at a different conclusion. In order to understand the argument made here, however, it is necessary to briefly discuss the topic of time perception.

In many ways, contemporary discussions and investigations of time in music and psychology can be traced back to the relativist position of time argued for by philosophers such as Immanuel Kant and Bergson, who situate time within the individual percept. It is this notion of time as a subjective construct that interests musicologists and psychologists alike – the former for the possibilities this perspective affords when considering music as constructing its own temporal experience, and the latter seeking a better understanding of states of consciousness by examining influences on the subjective experience of time. Two factors that affect our perception of time uncovered thus far pertain to the number and type of events we encounter within a duration (event density) and where we direct our attention (directed attention).

In brief, studies examining event density have found that for events perceived in the present, time moves faster with a filled duration and slower with an empty duration.¹⁷ This can be intuitively understood by contrasting the experience of spending fifteen minutes sitting in a waiting room versus fifteen minutes spent engaged in some activity. Meanwhile, our sense of time can also be influenced by whether we are paying attention to time versus stimuli,¹⁸ as well as the temporal structure of that to which we are attending. To return to the contrasting

17 Block/Zakay 1997; Wearden 2005.

18 Zakay 1989.

durations mentioned earlier, when one is waiting for something (as is the case in a waiting room), one's attention is drawn towards the passage of time, and thus evokes an expansion in the subjective sense of time passing.¹⁹ A musical analog can be found in the context of silence, wherein we are waiting either for the end of the piece or the next note. One could also argue that a sustained tone may evoke a similar perception of temporal expansion. Meanwhile, psychologist Mari Riess Jones has demonstrated that temporally structured stimuli are attended to differently than non-temporally structured stimuli, as the former can allow for future-oriented attending.²⁰ Given this, metered passages may require less attention than unmetered passages of music, as they afford a more future-oriented mode of attending that allows for the generation of expectations, whereas unmetered passages of music, which are unpredictable, prompt a focus on the unfolding ›now‹, leading to a slower subjective sense of time passing.

To return to *Dream Images*, then, we can make the argument that in those passages of music which are unique to Crumb, wherein there is little, if any, sense of meter, and where musical motives are separated by periods of resonating silence filled with the decaying sounds of the preceding chord, we perceive time moving slowly. Conversely, within the Chopin quotations, the presence of a meter provides a temporal structure for the unfolding events, and along with a higher density of events, allows for a greater sense of temporal progression. When contrasted with the surrounding passages, then, the impromptu excerpts create a sense of time moving faster.

Bringing this perspective together with the argument made above, wherein the Chopin quotations can be understood as emergent memories, I would argue that *Dream Images* has reversed the normative mapping of past as timeless and present as movement in time, creating instead an oscillation between a timeless present lost in reverie and a sense of temporal movement within an embodied memory. It is no accident that meter and the movement it evokes serve as the vehicle for this process. Indeed, Bergson suggests that movement, or more accurately, a ›motor mechanism‹, is the means by which we come to know and have ownership of memory. As I began with Bergson, so I would like to come full circle, giving Bergson the final word: »No doubt they [images stored up in spontaneous memory] are dream-images; no doubt they usually appear and disappear independently of our will; and this is why, when we really

19 Fraisse 1963.

20 Jones/Boltz 1989; Jones et al. 2006.

wish to *know* a thing we are obliged to learn it by heart... to substitute for the spontaneous image a motor mechanism which can serve in its stead.«²¹

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²¹ Bergson 1962, pp. 97–98, emphasis original.

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