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Although Alfred North Whitehead is not a name that appears with great frequency in contemporary philosophy of education, his notion of the rhythm of learning has garnered a modest amount of interest since its initial appearance in his classic text The Aims of Education. Most importantly, Hannu Soini and Mark Flynn's empirical research has demonstrated the ongoing relevancy of Whitehead's notion of the "rhythm of mental growth" for capturing the aesthetic aspects of learning. In an attempt to understand the "aesthetic experience of learning more concretely," Soini and Flynn have discovered the correlation between students' reflections on educational events in their lives and Whitehead's philosophical analysis of cycles of discipline and freedom.¹ In this essay, I extend Soini and Flynn's revitalization of Whitehead's work in order to further define (a) the poetics of learning, (b) the temporality of rhythm, and (c) the structure of human potentiality conserved through the rhythmic temporality of learning. To accomplish this threefold goal, I turn to the literary theories of Giorgio Agamben, who argues that rhythm redeems potentiality in the messianic break with linear, unilateral chronology. If Agamben enables us to fully appreciate the poetics of rhythm as a window into the nature of potentiality, then, in turn, Whitehead enables us to fully appreciate the implicit connections between the literary Agamben and Agamben's passing remarks on learning or, what he more frequently refers to as studying. In this sense, I am calling for a dialectic between Agamben and Whitehead in order to enrich both Agamben's literary criticism and Whitehead's educational theory. In the end, what will emerge is a more comprehensive theory of the poetics of learning that in some ways transcends limitations in both authors.

RHYTHM AND THE CYCLES OF POTENTIALITY IN LEARNING

In his seminal work *Aims of Education*, Whitehead argues that learning is composed of cycles of freedom, discipline, and freedom nested within cycles of romance, precision, and generalization. On the most basic level, romance is the earliest stage of mental development where students are emotionally engaged with the "vividness of novelty" at the world.² Here we find experience is unmediated by a particular *logos* and instead proceeds according to sensual discovery and wonder. The stage of precision follows with its emphasis on discipline and "exactness of formulation" (*AE*, 18). More often than not, it is this stage that occupies formal education at the expense of romance of allotted tasks. Finally, the stage of generalization is in a sense a return to the initial freedom of romance only now with the added reflective tools gained through precise analysis and the acquisition of relevant processes and techniques. Education, according to Whitehead, should concern itself with the "continual repetition of such cycles" (*AE*, 19). Thus, while

university life concerns itself mainly with the state of generalization, there is no reason why it cannot, through its internal development, lead back to a new period of romance. In fact, Whitehead argues as much. When describing the university student, Whitehead states, "He [sic] relapses into the discursive adventures of the romantic stage, with the advantage his mind is now a disciplined regiment instead of a rabble. In this sense, education should begin in research and end in research" (AE, 37). Each successive stage thus simultaneously gestures toward its own future overcoming by the next stage (romance necessarily forces the student onward to precision in order to refine wonder with analytic tools) while at the same time gesturing backwards toward its own past (generalization, in its final moment of perfection, suddenly returns to the romantic moment of open wonder). In this sense, there is a continual loop between cycles that press forward and backward simultaneously. Simply stated, each stage emerges out of an internal contraction of past and future stages. Whitehead perhaps puts it best when he argues, "there is not one unique threefold cycle of freedom, discipline, and freedom; but that all mental development is composed of such cycles, and of cycles of such cycles" (AE, 31). If modern schooling relies solely on the stage of precision to define learning, then the result is an "unrhythmic collection of distracting scraps" (AE, 21). Pushing Whitehead's analysis further, perhaps we could argue that this unrhythmic collection of scraps is not education at all. Such an observation forces us into the rather perplexing position of acknowledging that schools operating under this banner are not actually concerned with education but with something else entirely.

Key to Whitehead's theory of mental development are the rhythms that exist both across stages (leading from romance to precision to generalization) and within stages (nesting the wonder and freedom of romance within the wisdom and precision of generalization). Rather than a linear, chronologically uniform, and sequential model of learning, Whitehead argues for a spiraling or cyclic model that involves a continual loop between past and present, emotion and reason, freedom and discipline. The rhythmic nature of learning and mental development is, in short, "the conveyance of difference within a framework of repetition" (AE, 17). For Whitehead, the life of a child is essentially periodic, composed of cycles of growth between romance, discipline, and generalization. Yet at the outset it is of the utmost importance to recognize that "there are also subtler periods of mental growth, with their cyclic recurrences, yet always different as we pass from cycle to cycle, though the subordinate stages are reproduced in each cycle" (AE, 17). In other words, there are cycles within cycles, and while each stage of development might be dominated by a particular inflection of freedom or discipline, there are constantly recurring elements from past cycles that are drawn up and maintained within each stage. As Whitehead summarizes, "romance, precision, generalization, are all present throughout. But there is an alternation of dominance, and it is this alternation which constitutes the cycles" (AE, 28). Or, stated differently, "During the state of precision, romance is the background. The stage is dominated by the inescapable fact that there are right ways and wrong ways, and definite truths to be known. But romance is not dead, and it is the art of teaching to foster it amidst definite application to appointed task" (AE, 34).

Having outlined Whitehead's general theory of the rhythmic development of thought, I argue that we must further develop Whitehead's initial insights through Agamben's reflections on poiesis as production. Through this analysis we can then begin to clarify what it is about rhythm that is inherently linked to poetics and thus what it is about Whitehead that enables us to rigorously define the exact aesthetic dimension of education. For Agamben, rhythm is the structure of poiesis, which is a particular form of production distinct from praxis. Throughout his early, works such as The Idea of Prose, The Man Without Content, and The End of the Poem, Agamben stresses that poiesis is not the result of a willful, volunteeristic subject who realizes the idea of the good through an action. This notion of praxis has come to dominate the modern world, becoming the active intervention of a subject imbued with a god-like Will to Power. Rather, poiesis is a pro-duction of a world for human action. Agamben fears that humans have lost a poetic sense of pro-duction. This loss is due to the overwhelming dominance of praxis over and above poiesis in modern life. Agamben observes, "According to current opinion, all of man's [sic] doing that of the artist and the craftsman as well as that of the workman and the politician - is praxis, that is, manifestation of a will that produces a concrete effect."³ We can see the prodigious emphasis on praxis in the aesthetic theory of Friedrich Nietzsche, where the artist is a Will to Power, or even in Karl Marx, where the essence of the human is productive labor. In education the model of praxis also dominates, especially in the realm of critical pedagogy. Paulo Friere, for instance, argues that education is a praxis for realizing the ontological vocation of humanization and thus overcome objectification through subjectification.⁴ And yet, for the Greeks, there was a clear distinction between praxis and poiesis both in terms of cause and in terms of effect. In distinction from praxis with its emphasis on individual will to actualize specific effects, poiesis retains its relationship to the potentiality of existence. In this sense, education as a form of poiesis is not the doings of a subjective will that finds its expression in an act, but is rather the appearance of the world.

It is crucial for my argument that Agamben argues that the fundamental structure of poiesis is rhythmic. We can use Agamben's analysis of rhythm to unravel the strange formulation offered by Whitehead that rhythm is both a cycle within cycles (a repetition) as well as a model of mental development (a forward growth). According to Agamben's formulation, rhythm is a process where "in the work of art the continuum of linear time is broken, and man recovers, between past and future his present space."5 In other words, rhythm, as best exemplified in the structure of the poem, negates any notion of linear, chronological unfolding that culminates with an eschatological judgment. The rhythm of poiesis is simultaneously projective and recursive, a suspension of movement and its resumption. Agamben argues, "Rhythm grants men both the ecstatic dwelling in a more original dimension and the fall into the flight of measurable time."6 In other words, rhythm is not outside chronological time but rather is a disruption of linear time from inside its own chronological unfolding. Rhythm, which presses forward as much as it gestures backward, produces a cyclic space of what William Watkin refers to a "developmental reiteration"⁷ - rhythm is thus simultaneously a backward and forward movement in time. Counter to common sense understandings of rhythm, Agamben highlights how it is the complex interplay between interruption and endless, unperturbed flow. In fact, it is precisely the rupture of flow that inaugurates a return to flow (or rather announces its cyclic return). Agamben argues, "Rather than defining a problem and then seeking to solve it conclusively, let's say the problem of being, it [poetic thinking] is always already within the problem.... If traditional thought advances, poetic thought turns."⁸ In other words, poetic thinking is the rhythmic turning that in its propulsion toward conclusion turns in on itself thus perpetuating the paradox of its finite infinity.

For Agamben, this aporia is captured best in the rhythmic structure of verse, which is a space of "memory and repetition."⁹ Each rhyme in a verse anticipates the next, and the second rhyme inescapably recalls the first. In this sense the overall rhythmic structure that unites the individual rhymes in a poem is a "unity that intersects and unites a plurality and a repetition."¹⁰ If, as Agamben writes, "The poem is therefore an organism or a temporal machine that, from the very start, strains toward its end," then the end of the poem strains backward recursively to its own beginning through rhythm.¹¹

This description of the poem as a cyclic structure of forward momentum and recursive folding illustrates the intimate relationship between poiesis and learning as described by Whitehead. For Whitehead, education is the complex of relationships of cycles within cycles where every stage of freedom both propels the learner forward while simultaneously suspending or interrupting that propulsion through what he refers to as "the conveyance of difference within a framework of repetition" (AE, 17). The rhythm of mental development is not simply chronological unfolding, but is composed of cycles within cycles.

The greater import of this observation is conveyed by Agamben's further analysis of poiesis in relation to messianic time. If, in the moment of rhythmic poiesis, "we perceive a stop in time ... an interruption in the incessant flow in instants that, coming from the future, sinks into the past," then poiesis opens up a time that is neither the end of time or the chronology of every day events.¹² Rather, it presents a time of disjunction - the messianic kernel of time that remains between the progression of linear events and the final moment of judgment. This disjunction is not outside of chronology but rather is offered as its remnant where the future folds into the present and the past explodes into the future. Again, the structure of messianic time is reveled through the poem's rhythm. For Agamben, every poem is a "sotoriological devise which, through the sophisticated mechane of the announcement and retrieval of rhyming end words (which correspond to typological relations between past and present), transforms chronological time into messianic time."13 The time of the poem is the "metamorphosis that time undergoes insofar as it is the time of the end, the time that the poem takes to come to an end."¹⁴ In other words, the developmental yet recursive model of the poem illustrates the nature of messianic time as a time between chronological linearity and the end of time. In fact, the poem is always an attempt to delay its own end and thus remain within the space of its own radical de-completion. Stated differently, the end of the poem conserves the potential of its beginning. "The poem," writes Agamben, "is like the katechon in Paul's Second Epistle to the Thessalonians (2:7-8): something that slows and delays the advent of the Messiah, that is, of him who, fulfilling the time of poetry and uniting its two eons, would destroy the poetic machine by hurling it into silence."¹⁵ If the poem is an attempt to delay its own end, then Agamben argues that the end of every poem always seems abrupt or forced "as if the poem as a formal structure would not and could not end, as if the possibility of the end were radically withdrawn from it, since the end would imply a poetic impossibility."¹⁶ In fact, the only way for the poem to prolong the time of its becoming is to suddenly end with what Agamben refers to as a "catastrophe and loss of identity."¹⁷ If the structure of a poem is defined by certain features including the possibility of enjambment or rhyming couplets, then the end of the poem is a loss of this identity and thus the last verse of a poem is not a verse at all but rather the transformation of verse into prose. The only way to ensure its own de-completion is for the poem to undergo aradical de-subjectification as a poem and to become something else entirely: prose.

Applying this same analysis to learning, we can argue that mental development as a "rhythmic sway" (AE, 35) is not simply a forward progression marked by increased test scores or graduate degrees that signify the full actualization of the learner through measured progress but is a complex cycle of freedom, discipline, and freedom in a never ending rhythm of flow and punctuation. The educational danger in missing this fundamental insight is that learning would be submitted to the artificial constraints of linear chronologies with fixed deadlines and learning quotas at the expense of the complex and rather enigmatic interpenetration of suspension and resumption captured in the messianic time of poiesis. Like the poem, learning resists its own end, its actualization as a measurable quantity fully mastered by the "subject who knows." In Whitehead's analysis, this means a turn from generalization (as the certainty of a willing subject) to romantic intensity - a radical desubjectification that is not simply a repetition, but, as Whitehead emphasizes, a conservation of the romantic potentiality within the generalization itself. And if the messianic moment is linked for Agamben to poiesis and the time of the poem, then we can now clearly understand the implicit relationship between Whitehead's notion of spiritual reverence and rhythmic learning. For Whitehead, reverence is directly linked with the time of poiesis. He writes, "And the foundation of reverence is this perception, that the present holds within itself the complete sum of existence, backwards and forwards, that whole amplitude of time, which is eternity" (AE, 14). It is not, as Whitehead argues, religious education that gives us a sense of reverence, but rather the poetic nature of learning viewed as the rhythmic movement of the messianic time before the end of time - the time when the past returns to be redeemed in the present and the present is de-completed by the rupture of the future.

Read with new messianic eyes, the rhythmic development described by Whitehead is not for subjective development (the actualization of subjective will through the production of a specific life-world, a praxis) but rather for the continual de-subjectification initiated by poetic conservation of romantic potentiality. According to Agamben's theory, the fundamental experience in poiesis is desubjectification, or de-personalization. The subject of poiesis is the subject under its own suspension — the suspension of the subject as defined by measurable mental mastery or professional accreditation. Rather than the making of a subject (the subject as this or that emerging identity), poetic rhythm is a de-subjectification (a loosening of the subject from the forward march of the will). For Whitehead this would amount to the repetition of romance within generalization that interrupts the claim of mastery and thus initiates a return to research. This research is the destabilizing factor in Whitehead's model that continually presses discipline back to the necessary freedom to explore the very potentiality of thought beyond the parameters of any subjectification. In other words, the radical de-subjectification of an experience of rhythm (of the poem for Agamben or of learning for Whitehead) is an ontological reexperiencing of our potential to be or not to be, do or not do. It is this capacity that, for Agamben, forms the backbone of freedom. Agamben writes, "Here it is possible to see how the root of freedom is to be found in the abyss of potentiality.... To be free is, in the sense we have seen, to be capable of one's own *impotentiality*."¹⁸ In fact, what makes us human, according to Agamben, is precisely the capacity to not be, to remain impotential. Freedom is founded in a paradoxical impotence (capacity not to be) of poetic de-subjectification (the wonder of the romantic moment). This is a radically different understanding of freedom than that offered by proponents of critical pedagogy, such as Freire and his emphasis on the ontological vocation of progressive humanization through praxis. Agamben's politics of poetic rhythm coupled with Whitehead's educational theory suggest that freedom is, on the other hand, a sort of hesitation or suspension between a pure potentiality and a specific action in the moment of romantic wonder. Simply put, rather than education as the exclamation of "I will x" the rhythm of study returns us to the de-subjectivizing experience of "I can, cannot." If the former rushes to the fulfillment of potentiality in the moment of actualization of this subject with these beliefs and these competencies, then the latter sustains poetic freedom in the moment of wonder that defines the experience of one's (im)potentiality (I can, cannot).

It is my conclusion that Whitehead, when read through Agamben's extended notion of rhythm, is gesturing toward this notion of de-subjectification as the fundamental consequence of a rhythmic education. This is an education that resists subordinating potentiality to actuality. In Whitehead's language, we see that every freedom (to be or not to be) creates the conditions of discipline (to be), which in turn only produce the cyclic folding back into the moment of freedom (to be or not to be). Stated differently, every act conserves within itself a certain potentiality not to be and thus retains the trace of freedom. It is this trace that rhythmically pushes learning forward to new cycles through the recursive repetition of past cycles. In short, learning as rhythmic poiesis is the redemption of the potentiality for further romance within every generalization and as such stands in stark contrast to learning conceptualized as a praxis (where learning becomes an action in the world).

If Agamben's analysis of poiesis enables us to fully appreciate the aesthetic dimension of Whitehead's rhythmic model of mental development, then in turn, Whitehead helps clarify Agamben's fleeting comments on learning. In regards to

St. Thomas's interpretation of Dante, Agamben argues that learning can be defined as a "double disjunction between the intellect and speech in which language exceeds the intellect (speaking without understanding) and the intellect transcends language (understanding without speaking)."¹⁹ Stated differently, learning is the internal tension that exists between romance (as the freedom to speak without understanding) and generalization (as the intellectual mastery that suddenly lacks language and thus inaugurates a turn back to romance). Dante's genius, writes Agamben, was "his having transformed the two into a double but nevertheless synchronous movement traversing the poetic act, in which invention is inverted into discipline (into listening) and the discipline is inverted into invention, so to speak by virtue of its own insufficiency."²⁰ Rephrasing Agamben's eclectic observation using Whitehead's language, the philosopher is suggesting that Dante folds the two movements of learning into a single, synchronically poetic structure — a structure that is cyclically captured between discipline and freedom, romance and generalization without end.

FROM AESTHETIC EDUCATION TO THE AESTHETICS OF EDUCATION

In conclusion, I argue for the educational importance of this observation for educational reform more broadly. In the face of increasing budget cuts to arts programs, there are many philosophers of education lobbying for the necessity of arts education. Famously, Maxine Greene has been a recurring champion of aesthetic education, arguing that "encounters with the arts have a unique power to release imagination."²¹ Mediating the long tradition stretching from Plato to Martha Nussbaum with critical race theory, Paul C. Taylor likewise argues for the centrality of aesthetic education for defining the terrain of ethics in a post-colonial world.²² And finally from a Derridian theoretical lens, Margaret E. Manson has pointed to the importance of integrating visual arts into curricula for learners to become personally implicated in the construction of knowledge through an "aesthetic supplement."²³ Although differing widely in philosophical analysis as well as in final conclusions, all these authors share a similar problematic: the irreplaceable role of art in educational experience. If these theorists are calling (in some way, shape, or form) for a return to arts curricula in a time of major educational cuts to the arts, my project has been somewhat different. Rather than focus exclusively on the role of arts education in cultivating the imagination, ethical judgment, or constructivist learning environments, I have chosen to concentrate on the aesthetics of learning as such, on the internal relationship between all learning and poiesis as conservation of the experience of potentiality to be or not to be this or that subject. While not desiring to overshadow the centrality of attempts by philosophers to save arts-based education from extinction, this argument is in some ways more foundational. It is only through understanding the constitutive role of poiesis in the rhythm of learning that we can begin to appreciate the *resonance* that arts education has with learning more broadly defined. Through this shared resonance — this open space of contact between aesthetics and learning in the messianic moment of rhythmic turning - we can recognize that the fundamental enemy of arts-based education is in fact an enemy of education more generally.

1. Hannu Soini and Mark Flynn, "Emotion and Rhythm in Critical Learning Incidents," *Interchange* 36, nos. 1–2 (2005): 73–83.

2. Alfred North Whitehead, *The Aims of Education and Other Essays* (New York: Free Press, 1967), 17. This work will be cited as *AE* in the text for all subsequent references.

3. Giorgio Agamben, The Man without Content (Stanford, Calif.: Stanford University Press, 1994), 68.

4. See Tyson E. Lewis, "Messianic Pedagogy," Educational Theory 60, no. 2 (2010): 231-48.

5. Agamben, The Man without Content, 102.

6. Ibid., 100.

7. William Watkin, *The Literary Agamben: Adventures in Logopoiesis* (London: Continuum, 2010), 155.

8. Quoted in ibid., 201.

9. Giorgio Agamben, *Language and Death: The Place of Negativity* (Minneapolis: University of Minnesota Press, 1991), 78.

10. Ibid., 79.

11. Giorgio Agamben, *The Time That Remains: A Commentary on the Letter to the Romans* (Stanford, Calif.: Stanford University Press, 2005), 79.

12. Agamben, The Man without Content, 99.

13. Agamben, The Time That Remains, 82-83.

14. Ibid., 83.

15. Giorgio Agamben, *The End of the Poem: Studies in Poetics* (Stanford, Calif.: Stanford University Press, 1996), 114.

16. Ibid., 113.

17. Ibid., 112.

18. Giorgio Agamben, *Potentialities: Collected Essays in Philosophy* (Stanford, Calif.: University of Stanford Press, 1999), 183.

19. Agamben, The End of the Poem, 39.

20. Ibid.

21. Maxine Greene, *Releasing the Imagination: Essays on Education, the Arts, and Social Change* (New York: Teachers College Press, 1995), 27.

22. Paul C. Taylor, "Art, Education, and Witness; Or, How to Make Our Ideals Clear," in *Philosophy of Education 2009*, ed. Deborah Kerdeman (Urbana, Ill.: Philosophy of Education Society, 2009), 25–38.

23. Margaret E. Manson, "Drawing on Derrida: Aesthetic Practice as a Displacement of Learning," in *Philosophy of Education 2009*, ed. Kerdeman, 305–13.