

Rhythms as a Pedagogy of Becoming

Lefebvre, Whitehead and Steiner on the Art of Bringing Rhythmical Transformations into Teaching and Learning – Part II

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The first of these two articles gave a short introduction to research on rhythms in education, and presented in fuller detail how Henri Lefebvre and Alfred North Whitehead have devised educationally relevant rhythms. The aim was to express their thoughts in such a way that they could be seen as useful for today's classrooms. In this second article, Rudolf Steiner's ideas and recommendations regarding rhythms in teaching and learning will be presented. The article ends with a discussion of the significance of each author's contribution to understanding and realising rhythms in education.

Steiner's rhythms in education

Rudolf Steiner (1861–1925) was an Austrian philosopher, esotericist, educationalist and social reformer. His works consist of about 40 books, 6000 lectures and several artworks. Besides his more theoretical oeuvre, Steiner was a visual artist, architect, choreographer, playwright, poet and political activist. Education of all kinds was of particular concern for him. In 1919, Steiner was responsible for founding a school for the workers' children at the Waldorf Astoria cigarette factory in Stuttgart, Germany. Until his early death in 1925, Steiner took active part in leading, developing and organising the Waldorf School. He also gave impulses to establishing kindergartens and alternative social and curative educational institutions. Steiner's anthroposophical project can partly be seen as a vast adult educational enterprise, focusing on a continuous and lifelong individual as well as social development of responsibility and knowledge. Today there are 1000 Waldorf schools and twice as many kindergartens worldwide (Bund der Freien Waldorfschulen, 2015).

The establishment of the first Waldorf School and the development of Steiner's educational ideas took place in an era of great reforms in education. Common for these educational reforms was a protest against traditional, often Herbartian, ways of cognitive learning, where the demands of the curriculum were at the centre. The aim was to introduce a more humanistic and student-centred approach to education. Usually these new reform schools were based on the developmental psychology of the era and included art, crafts, gardening, work and nature experiences in their pedagogies (Skiera, 2003). The Waldorf School had its version of all of these common characteristics, although Steiner did not express himself as part of the *Reformpädagogik* movement. Unique for Steiner's approach was how Waldorf pedagogy became based on his esoterically founded anthropology (Steiner¹, 1996c). Steiner was also one of the few educational reformers who still valued Herbart's ideas (1995b).

Many of Steiner's educational lectures, given to teachers in different European countries, contain a presentation of his view on the developing human being, combined with ideas on how to teach the different

1. In the following, only the year and page numbers (when relevant) are given when referring to Steiner's works.

school subjects in an age-appropriate manner (2001). To a large degree, Steiner bases his educational thinking on correspondences, linking his anthropology, developmental stages and teaching methods into an articulate whole (2003). On this background, he provided a considerable amount of practical advice regarding teaching methods and curriculum design in almost all common school subjects (2000; 1997a). This article is based on a reading of Steiner's original texts, although his educational ideas are being applied in thousands of classrooms every day.

Education for freedom

The idea of an education towards freedom can be regarded as a signature of Waldorf education. Steiner wanted freedom to reign at all levels in the Waldorf School:

There is a good reason that our school is called the "Free Waldorf School". This is not just because of our independence from the state system, but the name very much reflects the atmosphere of freedom that pervades its entire makeup. (2003, p. 106)

In addition to striving for the school's independence from the state (2004b, p. 57), Steiner wanted teachers to have a large degree of freedom in their individual work (p. 164), and he urged them to "safeguard the children's inborn freedom" (2003, p. 198). The aim of Waldorf education was to "give the human being full freedom and vitality for the rest of life" (1997b, p. 76). Steiner designed his pedagogy with these broad principles of freedom in mind, emphasising the role of arts, a rhythmic alternation between work and play, and a recognition of the body as a primal factor. He maintained:

A teacher's primary task is to nurture the body to be as healthy as possible. This means that we use every spiritual measure to ensure that in later life a person's body will be the least possible hindrance to the will of one's spirit. If we make this our purpose in school, we can develop the forces that lead to an education for freedom. (2004b, pp. 48–49)

This acknowledgement of the developing body as a concern for freedom can explain why Steiner gave so much attention to activities where the mind and body were simultaneously engaged. Bringing rhythms into education can be regarded as part of the overall aim of an education towards freedom, because many of the educational rhythms assigned by Steiner work towards the thriving and development of an active mind in an active body.

Ideas on rhythms in education are scattered throughout the 200 lectures that Steiner gave on education, and constitute one of the cornerstones in his conception of teaching and learning. The following presentation is only taking Steiner's educational lectures into account, even if the topic of rhythms is dealt with also elsewhere in his work². Since rhythms prevail in almost all aspects of Waldorf education, the selection in this article is confined to instances where Steiner explicitly uses the word "rhythm". Some aspects have also not been included due to a lack of space. This includes, for example, parts of Steiner's ideas on breathing and sleeping, his thoughts on cycles of remembering and forgetting, rhythms in relation to the fourfold structure of the human constitution, and the division of the school day (2003, p. 131). Although the seasons and their rhythmical changes are incorporated into Waldorf educational practice, Steiner only scarcely mentions this in his educational lectures, and the topic is therefore not included here (1998a; 2001).

Unlike Whitehead and Lefebvre's writing on rhythms, which are concentrated on single and rather short books, several of Steiner's volumes on education deal with rhythms, each in a different way. Fifteen of his books have been chosen as sources for providing this introduction to the role of rhythms in Waldorf education. An analysis of the different aspects of rhythms in Steiner's educational works is presented below and organised into five subthemes.

². See, for example, Steiner's lecture from 21st December 1908 where he elaborates on different temporal rhythms in the human constitution (1988, p. 148), or the lecture from 24th December 1924 on rhythmical memory as a historical phenomenon (1991, p. 11).

Rhythms as part of the human constitution

In a series of lectures held for the teachers just before the opening of the first Waldorf School, Steiner presented his comprehensive view of a threefold human psychology (1996c). This idea was by no means new. Originating in Plato, the conception of a tripartite human soul had spread to early Jewish, Christian and Muslim thinkers (Elkaisy-Friemuth & Dillon, 2009). It was revived in the 18th century by German faculty psychologists, and became widely known through Moses Mendelssohn's *Letters on Sensation* from 1755, where he "explained the soul as the faculty of feeling, thinking and willing" (Tomasoni, 2011, p. 150). Heinrich Pestalozzi, the famous Swiss educator from the same period, brought the idea to education with his teaching of the heart, hand and head. Steiner extended this conception of a psychological threefoldness into a physical bodily realm as well as into what he comprehends as the spiritual parts of the human being. In his educational lectures, Steiner is particularly concerned with the psychological division into thinking, feeling and willing and its bodily correspondences. According to Steiner, the threefold body is composed of a nervous system, a rhythmic system, and a system of movement and metabolism. In a lecture on education, he explains:

Just as thinking is connected with nerve-sense life, feeling is directly connected with the human rhythmic system. Feeling, as soul life, pulsates in our breathing, blood circulation, and lymphatic system and is connected with these systems just as directly as thinking is with the nerve system. The will is directly connected with the metabolism. (2001, p. 40)

Here, Steiner emphasises the link between the two levels, a view that brings bodily rhythmic processes such as breathing and heartbeats in relation to the experience of feeling. This connection between inner experiences and physiology is highlighted by Steiner in several of his educational lectures, and provides a base for his idea that Waldorf pedagogy is nourishing the body when at the same time that the faculties of thinking, feeling and willing are engaged and developed.

Steiner's threefold human anthropology is concerned with how sympathy and antipathy play into one another as polaric processes (1996c). Steiner connects cognition, memory and the forming of concepts to antipathy, and willing, imagination and the production of inner pictures to sympathy. In this way, he creates interplaying polarities of cognition–willing, of memory–imagination, and concepts versus mental pictures. This idea embeds the whole of Waldorf education into a rhythmic conception where opposites are interacting dynamically in processes of learning and development. The rhythmical sphere of feeling and emotions becomes particularly important in this respect, because it is here that these polarities meet and are brought into play. In the following, the focus will be on Steiner's more detailed use of rhythms in education, and the broader concepts linked to sympathy and antipathy will not be further developed.

Steiner links rhythmic teaching to the fact that the heart and breathing under normal circumstances never tire. When a teacher engages her pupils in an artistic way, learning should not become tiring:

Everything that is artistic or rhythmic, must be engaged. What is the result? The result is that with teaching of this kind the child never gets tired, because you are engaging the rhythmic system, not the head. (1995a, p. 113)

According to Steiner, tiredness is experienced in the nerve system and in the system of movement, but not in the rhythmic parts. At several places in his educational works, he repeats this argumentation linking artistic teaching and non-tiring children (2004a, p. 107). Moreover, on a more general level, Steiner proposes using variations for preventing tiredness: "we can work against any oncoming tiredness by introducing variations of the main theme" (2003, p. 287).

The link between the rhythms of the body and the experience of feeling is further elaborated by Steiner in his developmental view of learning and teaching. For different age groups, the use of rhythms takes on different shapes.

Rhythms related to the development of the child and age-appropriate teaching

In addition to emphasising the interrelationship between the three systems of the body and the soul with its thinking, feeling and willing, Steiner connects his anthropology to a development in seven-year periods.

The idea of a human development in seven-year stages was first documented in a famous elegy by Solon in ancient Greece. It was further elaborated by Hippocrates, and appears to have been widespread in the Greco-Roman antiquity (Overstreet, 2009; West, 1971). Steiner brings this idea into education by assigning specific developmental tasks and possibilities to each seven-year period. For the first 21 years of life, Steiner maintains that education should focus on the evolving will, feeling and thinking, respectively, in a sequence of seven years each. The development of feeling thus becomes connected to the second seven-year period in a child's life: "Between the ages of seven and approximately fourteen, the teacher's main concern must be directed toward the students' evolving life of feeling" (1996a, p. 98). Steiner further divides each seven-year period into three intermediate phases (2003, p. 137). For each of these phases, from seven to nine, from nine to twelve, and from twelve to fourteen years of age, Steiner proposes a different educational significance to rhythm. He thus contends that teachers should bring rhythmicity into their teaching in an age-appropriate manner.

In the first period, from approximately seven to nine, the teacher is advised to teach in a general musical and rhythmical manner. For this age group, rhythms are understood as a quality that should permeate all teaching: "Educators must be able to get into the element of rhythm to the degree that whatever they present makes an impression on the children and allows them to live in their own musical element" (2003, p. 136). Pupils at this age will not be made consciously aware of these rhythms, but simply live in them as a natural way of learning and being together at school. Steiner has many suggestions on how to teach rhythmically by bringing in movements, singing, storytelling, the use of imagination, rhythmical counting in mathematics, etc. This repertoire of rhythmically engaging teaching belongs to the core of the Waldorf curriculum and can be regarded as one of its most characteristic traits (Rawson, Avison, & Richter, 2014). Such a rhythmic education pertains even to the minutest details of a teacher's gestures or use of voice. Steiner contends that children at this age are inwardly responding in a musical and rhythmic manner to everything they experience (2003, p. 136), and that proper learning for this age group relies on rhythmically engaging teaching:

Everything will go smoothly if, rather than explaining the subject matter, one forms the content into a story, if words are painted with mental images, and if rhythm is brought into one's whole way of teaching. If the teachers' relationship to music is not restricted to music in a narrow sense, but if they can introduce a musical element into their teaching — if their lessons are permeated by beat, rhythm, and other less obvious musical qualities — then children will respond spontaneously and with acute understanding. (1996a, p. 100)

Steiner thus sought to embed teaching and learning in a wide variety of rhythmical and artistic modes without making rhythms a conscious element for younger pupils until the age of nine. His vision of rhythmic teaching aimed at making pupils better learn and understand the subject matter at hand.

Older pupils, after the ninth year, can, according to Steiner, develop an understanding of rhythms. They are not only embedded into rhythms, as before, but will also more objectively comprehend and analyse rhythms and beats in music, nature and social settings. The stepping up to a reflective and conscious grasping of rhythms discloses the more mature children's general attitude towards "everything coming to meet them from outside" (2003, p. 139). For Steiner, children now relate more directly to outer experiences and, at the same time, their unconscious musicality is transformed into a conscious grasping of musical and rhythmical experiences. In Waldorf education, this crucial point of development is related to an intensifying of rhythms in learning and teaching. The development of a greater conscious relationship to the world initiates, according to Steiner, a musical spur in this age group, making them enjoy and attend to rhythms and music even more strongly than before:

And then, between the ninth and tenth years, something truly remarkable begins to occur; the child feels a greater relationship to the musical element. The child wants to be held by music and rhythms much more than before. (1996a, p. 58)

One might ask what the reasons might be for emphasising this connection between rhythmicality and a growing independence. Steiner gives no further explanations for this link. It can be argued that musicality is about relations. Presenting the school subjects in a musical and rhythmically differentiated manner for this age group aims at providing an integrative and supportive transition to independence. The goal would

be for pupils to become independent but not distanced. Then rhythms might, on the one hand, be seen as that which connects and resonates with the world. On the other hand, experiencing rhythms accentuates one's own body and mind, partly as being autonomous and, to some extent, responding out of choice or joy. The idea would be to let children become independent while they are enjoying a rhythmic and musical relationship to the school subjects in their learning.

From the twelfth year, another step in the direction of independence is indicated by Steiner: "children develop the ability to lead the elements of rhythm and beat into the thinking realm" (2003, p. 139). This opens up new and broader perspectives on rhythms. In the mentioned lecture, Steiner provides no direct examples of how to teach rhythmically for this age group, but his inclusion of the rhythms of waking and sleep into the process of understanding is clearly relevant. This is taken up later in the text.

Rhythms of humour and seriousness

One piece of advice that Steiner gives quite often in his educational lectures is to include humour in all teaching. Humour fosters an attitude of lightness and grace in teachers' relations to school subjects and, even more importantly, towards their pupils. Steiner contends:

The fact is, no art can be mastered without humor, especially the art of dealing with human beings. This means that the art of education involves eliminating ill humor and anger from teachers. It means developing friendliness and love full of humor and fantasy for the children. (2004b, p. 78)

For Steiner, humour and seriousness belong together in teaching. Dealt with in a rhythmic manner, they constitute a kind of breathing in the classroom where the liveliness of humour constitutes an exhalation and seriousness, an inhalation. Steiner recommends that teachers include rhythmic alternations between humorous incidents and serious topics in every lesson (1998b, p. 364). An observant teacher should see when pupils are taken over by too much seriousness or concentration. When this happens, a funny story or some lighter kind of conversation should attempt to bring balance. Steiner is here concerned with the well-being of children, pointing to such variations in mood as a "hygienic rule" (1998, p. 539). He warns against the prevalent one-sided serious mode in teachers, and wants to bring joy, life and freshness into the classroom, creating a contrast to the necessary concentration and also to the tragic content in many subjects.

Rhythms of sleep and breathing

The fact that learning and teaching at school continue in a consecutive row of days with free time and sleep in between is consciously integrated into Waldorf pedagogy. A daily main lesson at Waldorf schools usually covers the same subject for two weeks or more, thus allowing teachers to take the rhythm of sleep and wakefulness into account (Leber, 1996). What is taught one day is as a rule continued in specific ways on the following day, targeting new aspects of learning after sleep. On a general level, Steiner contends that including the night in processes of learning will aid pupils' memory (2003, p. 75), and he envisions that teachers can contemplate their pupils and "wake up the next morning with significant discoveries about the previous day's events at school" (2004a, p. 200).

Steiner further maintains that education has a double role regarding sleep. Firstly, schools can support the development of healthy sleeping. According to Steiner, this can be achieved by an artistic way of teaching, bringing musicality and rhythms into the classroom. "We can help children live right while awake by drawing the intellectual out of the artistic, and, as a result, we also cultivate the right sleep" (2004a, p. 113). Secondly, by selectively presenting and discussing a topic differently with the students before and after sleep, Waldorf teachers can integrate the night into their instruction and, thus, endeavour to achieve a better and deeper subject comprehension by their pupils.

In a series of lectures on education for adolescents, Steiner goes into further detail on how to take into account what happens during sleep (1996b, pp. 46–53). For Steiner, the educational significance of the

night is founded in his esoteric understanding of sleeping. He contends that children at night “experience something that can only be experienced during sleep, and everything you taught the children participates in the experience” (1996b, p. 47). Sleep is seen as a spiritual elaboration of yesterday’s events. In these lectures, Steiner provides examples from the teaching of physics, history and music. The idea is first to present the subject matter in a displaying and objective manner. Then, during the same lesson, teachers are advised to review more mentally what had been shown or presented earlier. In physics, for example, equipment is removed and the experimental events are recapitulated in memory. The next day, when pupils return after a night’s sleep, the teacher initiates a discussion on yesterday’s topic aiming at bringing forth pupils’ own reflections and judgements:

When they return on the following day they again have the spiritual photographs of the previous day’s lesson in their heads. I connect today’s lesson with them by a reflective, contemplative approach ... When I make an objective, characterising approach on the first day, followed on the next day by reflection, by judgments, I shall allow the three parts of the threefold human being to interact, to harmonise in the right way. (1996b, pp. 52–53)

What Steiner does here is connect the parts of his triadic anthropology to each of the three phases of teaching taking place before and after sleep. The first, more objective presentation activates the “whole being”; the following recapitulation engages the “rhythmic system” (1996b, p. 50); and the next day’s contemplation allows “the cognitive element, thinking”, to be employed (p. 52). In the example above, by including the night into rhythms of teaching, the aim is to deepen learning by following a bottom-up trajectory, sequentially engaging what Steiner understands as the bodily correlates of the will, feeling and thinking, while pupils perceive, recollect and contemplate the subjects taught. Between recollection and contemplation, Steiner includes the spiritual events of sleep, which he proposes will prepare pupils for their intellectual elaboration of the given topic. This is an example of how Waldorf education cares for and gives time and attention to the vulnerable process of thinking, to the formation of individual comprehension and judgements.

Rhythm-based relationships between pupils and teachers

In many of his lectures on education, Steiner strongly emphasised the importance of establishing and developing good relations between teachers and pupils. This relationship was understood as a foundation for learning, especially in the first school years (1997b). Steiner thus made a trusting and caring relationship between teachers and their pupils a cornerstone of his Waldorf School (1995b). Developing and fostering such relations needs time, and Steiner envisioned the role of a class teacher being responsible for the same group of children over a longer period of time, ideally from class one to eight. In addition to establishing mutual trust as a ground upon which learning and the engagement with school subjects take place, the class teacher can build temporal bridges between what children had learnt in earlier years and current learning topics. A longitudinal rhythm can in this way be brought into teaching when earlier learning contents are compared and discussed in relation to a present-day subject matter. Steiner maintains:

It is a feature of this teaching method that the teacher moves up through the grades with the same students. Only in this way can one work with the rhythms of life. And life has a rhythm in the most comprehensive sense. (2001, p. 85)

The Waldorf curriculum is designed so that similar themes are brought up several times during the school years (Rawson et al., 2014). With advancing age and levels of comprehension, pupils can grasp increasingly broader perspectives of these themes. What was learnt in a more experiential or emotionally engaging way some years ago can be taken up later with new possibilities for understanding. Subjects taught at an early age can be regarded as ‘seeds’ to be further cultivated and brought to fruition later on. Waldorf teachers are advised to repeat specific contents over the years and, thus, prepare for a cyclic learning spiral where similar content is taken up differently each time (2000, p. 85). To be able to do this, the teachers must know their pupils and keep track of earlier learning contents. The class teacher, not only knowing the children very well but also having taken an active part in their learning experiences, has unique possibilities regarding establishing such temporal bridges. Pupils and teachers together can dwell on memories, raise new questions,

and reflect on expanded perspectives. By weaving past and current subjects into dialogues and reflections, lines of development and perspectives of meaning can be brought to the fore. All participants are given opportunities to grasp deeper longitudinal currents in the processes of learning and teaching.

In addition to longitudinal rhythms of years and months, Steiner also pointed to the value of a musical and rhythmic quality imbuing the actual relationships at school. In this sense, Steiner's understanding of rhythms in education goes beyond mere didactics or methods of teaching. He acknowledges musicality and rhythms both as a way of being and of relating: "I would say that a musical quality must pervade the relationship between teachers and students" (2004a, p. 106). This can be seen as intending to create an atmosphere of solidarity and mutual respect in classrooms. Teachers are seen not only as conveyors of prepared learning contents, but also as fellow humans sharing the time spent together at school in a fuller way. The presence of musicality and rhythms in classrooms implies the existence of a social, breathing and usually pleasurable ambience.

In some of his educational lectures, Steiner turns his attention to what goes on relationally when people listen to each other. For him, listening to spoken language implies "a form of participation" (2000, p. 56), where the listener inwardly mimics what is being told. In this sense, talking together becomes an active process of sharing experiences beyond the mere cognitive level. To further support an understanding of rhythmically sustained relations between teachers and pupils, Steiner refers to how he envisions the act of communication, where rhythmic alternations between speaking and listening engender something like a sequential waking up and falling asleep among those talking to each other. Steiner contends: "The inner state of our soul is no different when we are listening than when we are sleeping" (2001, p. 193). Here, he conceives of a mostly unconscious rhythm pervading everyday communication. In a similar sense to including the daily rhythms of sleep and waking into the art of teaching, this faster, almost vibrating rhythm of communication can be seen as opening up and connecting to deeper layers of the human being. Steiner links this "rapid alternation between waking and sleeping" to what he terms an "organ of the I-sense", where the self of the other is experienced (1996c, p. 140). This rhythmic conception of what is at stake in dialogues between teachers and pupils adds weight to Steiner's emphasis on building and sustaining good relations at school. According to him, in the exchanges of a dialogue, a deeper reciprocal and sensing participation is taking place. The educational significance of this lies in Steiner's interpretation of sleep as much more than simply losing one's consciousness. Sleep is a way of connecting to hidden reservoirs with the ability to promote and deepen understanding.

While we are listening or looking at something, there is a continual awakening and falling asleep, even though we are awake. It is a continual undulation — waking, falling asleep, waking, falling asleep. In the final analysis, our entire relationship to the external world is based upon this capacity to move into the other world, which could be expressed paradoxically as "being able to fall asleep". What else could it mean to listen to a conversation than to fall asleep into the content of the conversation? Understanding is awakening out of the conversation, nothing more. (2001, p. 193)

In this passage, Steiner generalises his view of the unconscious rhythmic alternations between waking and sleeping phases in communication into a generic conception of sense-based understanding. What in the earlier quotes pertained to listening alone is here expanded to seeing as well. In the same vein, the ability of an inner mimicry and the sensing of the self of the other are here broadened to encompass "our entire relationship to the external world". Rhythms of unconscious sleep and wakefulness are, in Steiner's view, tools for connecting to and comprehending other people in social interaction, and also underlie any learning based on sense experiences. The idea of giving time and reflection to a potential unconscious oscillation between sleep and waking in communication and learning can inspire teachers to cultivate more 'breathing' and temporally conscious interactions at school. This intimate aspect of Waldorf pedagogy was the last of the five subthemes presenting Steiner's ideas on rhythms in education. As has been shown above, Steiner has provided a comprehensive account of how rhythms can penetrate almost all activities at school. Rhythms belong to the mutual caring and developing relationships between teachers and pupils. Furthermore, Steiner extends their relevance to a broader sense-based comprehension of social and natural phenomena. Focusing on the rhythmic nature of sleep related to pupils' comprehension, to communication, and to experiential

learning in a broader sense, indicates his ability to elaborate subtle and often ignored aspects within teaching and learning.

Significance for today's classrooms

In the previous sections of these two articles, Lefebvre, Whitehead, and Steiner's approaches to the topic of rhythms in education were presented. In this last part, their various attempts to grasp and depict such rhythms will be evaluated with regard to how each contribution can be seen as relevant for contemporary educational thinking and today's classrooms. Steiner's approach will be treated in more detail than the two others.

All three authors developed their educational ideas late in life. They were mature men. In the case of Steiner and Whitehead their educational ideas were given as lectures, and as far as we know, Lefebvre dictated parts of his rhythm analysis (Shields, 1999). Therefore, there is a spontaneous quality in all three accounts where listeners and contextual circumstances are brought into play. The three thinkers share key common views on how a richer understanding of rhythms could inform pedagogy. They were all concerned with how rhythms can bring life, freshness and also joy into schools and the everyday. They share the view that art and playfulness belong to education and can foster deeper learning through rhythmic modes of teaching and interaction. In all three accounts, the body plays a prominent role in how rhythms can be enacted in learning and teaching. Moreover, the value of a situated presence at school, including its plurality of relations and acts of becoming, is also implied by the three authors. Already here, a lot of implications for today's classrooms are to be found. Broad educational fields such as experiential learning and the role of arts connect to their common ideas. Adding a rhythmic temporal perspective to these fields can clearly be seen as a valuable contribution.

None of the three authors based their views on rhythms in education on presented empirical material. The legitimacy of their ideas and suggestions will therefore rest partly on their different theoretical and experiential backgrounds, partly on possible later empirical investigations, and finally on the relevance experienced by today's educational thinkers and practitioners. With regard to Whitehead (1967) and Lefebvre (2004), empirical research exploring their ideas on rhythms in educational settings is too limited to be accounted for. Waldorf education, on the other hand, has a broad empirical base, having existed for almost a century as an educational alternative. A growing number of empirical studies show equivalent or better learning outcomes, better health, and significantly higher pupil satisfaction for Waldorf pupils than for pupils of public schools (Liebenwein, Barz, & Randall, 2013, p. 59; Larrison, Daly, & Vanvooren, 2012; Woods, Ashley, & Woods, 2005, p. 18). In the German study from 2013 and the British from 2005, rhythms are mentioned explicitly as a core educational concern and practice in Waldorf schools, possibly contributing to comparatively better health and school contentment for Waldorf pupils.

There are also some significant differences between the three authors, especially regarding metaphysics. Whitehead and Steiner have developed cosmological views of nature and humanity, openly including spiritual and religious perspectives in their thinking. With his anthroposophical project, Steiner claimed that suprasensory perception could provide true knowledge about reality, whereas Whitehead rejected this assertion (Griffin, 2012). Lefebvre, on the other hand, clearly distanced himself from metaphysical thought in general, believing that it simply contributed to more alienation (Lefebvre, 1991).

Lefebvre's life-confirming critique

Many currents of thought and of personal life experiences were united in Lefebvre's critical works. Besides his love for both rural and urban life forms, and in addition to his Marxist and sociological interests, Lefebvre had conducted extensive philosophical studies with a special attention to German philosophy from Hegel to Nietzsche and Heidegger (Elden, 2004). In addition to all this, Lefebvre was a keen lover of art. He played the piano himself, and his works are scattered with comments and references to poetry, novels, cinema,

theatre, music, dance, and the visual arts. One can say that Lefebvre lived a life of presence — politically, intellectually, emotionally and artistically. All of this amounts to a figure who took an active and spontaneous part in core 20th century conflicts and struggles with his heart, his head and his hands.

For education, Lefebvre has left some potentially relevant ideas regarding how teachers and others responsible for today's schools can develop insights and practices aiming at creating healing pedagogical rhythms. His rhythmanalysis could be developed into professional tools for creating an awareness of what kinds of rhythms are taking place in educational activities and relations (2004). Teachers could work individually on his suggestions aiming to develop a bodily and mindful sensitivity to the multitudes of rhythms in their classrooms. When are healing or eurhythmic rhythms coming to the fore, and when are more disturbing or even arrhythmic rhythms present? Based on such perceptions, teachers could integrate a broader concern for rhythms of activities and relations when planning and conducting their teaching. How can the various events at school be brought into a pulsating and eurhythmic whole? What new insights and new teaching methods can be developed by using rhythms as a lens for educational understanding and action?

Taking up Lefebvre's more subtle ideas could lead teachers beyond bringing variations into classroom work. The liberating and artistic aspects of rhythmanalysis can open up reflective spaces concerning what it means to be present, how processual and transforming aspects of relationships can come into focus, and how spontaneity and play can be knowingly integrated into learning and teaching. For Lefebvre there is more at stake than simply finding tools for coping with alienation and external pressures. The aims of taking conscious care of educational rhythms are not only to heighten efficiency and lower levels of stress, but also to allow existential, therapeutic and artful qualities to enter the teaching process. By trying to answer the questions of how the arts of teaching and of being together can be experienced and modelled through rhythmanalytical means, teachers are potentially brought into contact with deeper layers of what goes on in education.

A teacher rhythmanalyst would simultaneously aim at grasping and being grasped by the rhythms present in her classroom. A lesson can be regarded as a composition of rhythms involving bodies as well as minds. There is a challenge of vulnerability and of deep involvement connected to realising oneself as partaking in the rhythmic movements of teaching and learning. Through rhythmic awareness and participation, a teacher could, for example, learn how to form dialogues in the classroom in a breathing and balanced manner. She would know how to leave time for pauses, for thoughtful or emotional resonances, and to orchestrate the different states of energy present in classroom interaction and communication. The teacher would need to be sensibly responding to pupils' utterances, but also to take part in the rhythms of communication as an equal partner in the breathing flows of give and take.

Instead of looking at Lefebvre's rhythmanalysis as a normative ideal for education, his thoughts can be regarded as tools for reflection, and as devices for asking questions and making inquiries. It can easily be envisioned how groups of teachers, artists and researchers together could develop workshops in educational rhythmanalysis. Here, sensitising exercises would probably mix with ideas of how to form and sequence classroom activities in rhythmic ways. Moreover, maybe Lefebvre's playful, wondering, critical, artistic and political attitudes would inspire an atmosphere of socially generous creativity in such workshops.

Whitehead's beautiful coherence

Whitehead came to education as a mathematician. The simple elegance of his threefold rhythm in education can be interpreted in relation to ideals of beauty and simplicity in this field (Montano, 2014). Whitehead's educational rhythms are conceived with an aesthetic simplicity and, at the same time, with an openness towards the complex. The rhythmic movement from romance, through precision, to generalisation, which, according to Whitehead, characterises the development of learning from the first school year to university level, should also penetrate each lesson or learning unit (1967). In this way, he creates a pattern of rhythmic interference where multiple repetitions and movements of development are mirrored in his whole conception

of education. Whitehead achieves this partly by taking up Hegel's dialectics, partly by building on the developmental psychology of his time, and partly by employing the basic epistemological tools of induction and deduction. Each of these principles can obviously be criticised as oversimplifications and also as outdated in terms of informing today's education, but seen as interacting approaches they present the possibility of mutually balancing and decentring each other.

To start learning with a romantic and inductive attitude, to foster the spirit of discovery, of wonder and of a sense-based directness, can be seen as an invitation to deeper modes of learning and connectedness for pupils. An inclusion of precision and a mastery of facts and basic rules are still vital parts of today's educational policies. The final stage of generalisation indicates a deductive mode of understanding and of bringing ideas into realisation. By weaving together induction and deduction and linking them to the craft of precision, Whitehead creates an educational model where basic steps of a scientific method are taken into account. An education consisting of these elements could be regarded as intuitively right. You have discovery, learning of facts, and the application of ideas. When, in addition, these three steps are laid out in a processual triadic rhythm with oscillating phases of freedom and discipline, Whitehead, the mathematician and scientist, has left the world of education an elegantly simple imagination of how learning can be given life, rigour and relevance.

Whitehead's ideas of a rhythmical structure of teaching and learning could be taken up by individual teachers in their classrooms. Organising a lesson in the sequence of opening up in romance, going through a phase of precision, and ending up with the larger picture of generalisation is conceivable within the framework of many classrooms, at least where teachers have methodical freedom, as is the case in Norway. A history lesson could begin by the teacher telling scenes from a biography or some dramatic event, followed by a discussion where these events were imaginatively elaborated. This would be an opening in romance. Then the facts, numbers and names could be brought into the picture and, finally, the class could consider what can be learnt from these historical events.

Longitudinal aspects of Whitehead's rhythms belong to the more formalised part of school curricula. Implementing Whitehead's educational ideas would obviously require critical and subject matter-oriented reflections on the role of development and progression. Since there is no consensus on either child development or subject progression, such an inquiry would partly end up in the formulation of normative stances. What ought to be learnt at a certain age? Which logic of development can be designated to this subject? How can the sum of demanded learning be taken care of within Whitehead's suggested developmental structure? With respect to the subject matter, his three stages could then be seen as posing curricular questions. How can transitions from wonder, via fact orientation, to deductive application be realised differently in each subject? Combined with knowledge from empirical research on age-related teaching and learning, such questions would bring the idea of progression back to the forefront of education.

Whitehead's interest in art and aesthetics can be taken as inspiration for teachers on all levels. Art is understood both as a way of teaching and learning and as a goal for the whole process of education. An artistic attitude on the part of the teacher, and the whole idea of teaching as an art, is clearly devised to reduce instrumentality and to make the classroom a place for rich learning experiences. Moreover, the use of art in education aims at intimately connecting pupils to great achievements in human history. A sense of participation and belonging can thus be attained. Art involves individual imagination as well as craft-oriented dexterity. An education embedded in art strives to connect pupils to their own lives, to culture and democracy, and to wider spiritual perspectives. In the end, to see education with Whitehead as rhythmic movements towards perfection and a meaningful life is probably impossible without an artistic attitude. There has to be a 'sun' giving light and warmth to such an educational landscape.

Steiner's spiritual perspective

The context and theoretical background of Steiner's educational ideas can be regarded as even richer and more complex than Lefebvre and Whitehead's. When Steiner, nearly sixty years old, founded the first Waldorf

School and developed its ideas, he already had an almost unrivalled production behind him in terms of books authored. He possessed a broad knowledge, especially within the humanities and various esoteric traditions. Philosophically, he was an avid reader of Kant, Hegel, Nietzsche, and the neo-Kantians of his day. A deep and long-lasting inspiration came from Goethe. However, the most significant context of Steiner's works can be regarded as the esoteric traditions, such as Theosophy, Neoplatonism, Rosicrucianism, Hermeticism and Kabbalah. According to Steiner, he had developed an ability to investigate esoteric or hidden aspects of cosmos, nature and the human being in a scientific way. This research of spiritual realms was Steiner's own primary legitimation of his esoteric works and also of his educational ideas. He does not explicitly claim to build on ideas from esoteric traditions, the history of education or from contemporary reform education, even if similarities and connections can be found. In his educational lectures, Steiner often commented on the role of spiritual research as a source of his Waldorf education: "I wish to convey only a true knowledge of the human being as revealed by decades of anthroposophic research" (2003, p. 176).

The esoteric background and grounding of Waldorf education poses certain challenges to practitioners as well as researchers. To what extent must Steiner's anthroposophy and his spiritual research methods be recognised and accepted in order to understand, evaluate, develop or practice Waldorf education? Can significant contributions of Waldorf education, like Steiner's ideas and proposals regarding rhythms in education, be dealt with fruitfully without including its esoteric aspects? If and how Steiner's educational ideas should be incorporated into today's classrooms will depend on how such questions can be answered.

Steiner's spiritual research deals, to a large extent, with the metaphysical questions with which humanity has struggled through millennia. In his deep-ranging lectures on metaphysics, Theodor W. Adorno contends that *metaphysical experiences* should be regarded as fallible in order to possibly be true (Adorno, 2001, p. 141). The affirmation of this paradox is seen by Adorno as a precondition for any truth, immediacy or real life pertaining to metaphysical experiences. Only an unresolved openness towards the metaphysical is capable of saving such experiences from dogmatism, contends Adorno. Taking this viewpoint back to Steiner's research would entail treating his spiritual accounts as fallible non-dogmas pointing to possibilities, to acts of becoming and to perspectives of transformation rather than to stable truths. This way of connecting truth to fallibility can be argued to imply a dynamic and also a rhythmical attitude towards Steiner's spiritual research. When polarities such as the possibility of truth, on the one hand, and fallacy, on the other hand, are seen as dynamically interacting, there can be a rhythmic movement between them, a drive forward, an intensification or 'Steigerung', as Goethe would say (Tantillo, 2002). In such a view, Steiner's spiritual research can be seen as propositions and suggestions, and as starting points for further inquiry and development.

Like all research, Steiner's investigations are rooted in traditions. Notions and terms are usually not invented out of pure experiences, but connect with previous work. For Waldorf teachers, to know the context and traditions belonging to Steiner's spiritual research would seem imperative. Such contextual knowledge constitutes a platform for better developing individual judgements and stances, and forms the base upon which the originality of Steiner's works can be evaluated. Presenting a fuller context of Steiner's ideas on rhythms in education is beyond the scope of this work, but two instances of similarities between Steiner's views and earlier literature will be mentioned as examples. Firstly, the link between bodily rhythmic organs, such as the lungs and heart, and emotional experiences is found as early as in Plato's dialogue *Timaeus* (Plato, 2008). Here the rhythmic organs of the heart and lungs are connected to the middle, spirited part of the soul, the "thumos", where affection and courage reside (70a-d). Sleep is another central topic related to Steiner's educational rhythms. From Plato, via Cicero's *Dream of Scipio* (Cicero & Powell, 1990) and medieval ballads such as *The Dream Song of Olav Asteson* (Jordan, Welburn, & Stedall, 2007), and up to German romanticism, sleep has been interpreted as a partaking in spiritual events (Gehring, 2008, p. 120). To sum this up, one could say that Steiner, on the one hand, bases Waldorf education on "the spiritual research and knowledge of the human being", which he himself represented (1996d, p. 190). On the other hand, Steiner can be seen as a reviver of and contributor to millennia-old esoteric traditions. To investigate both arenas would be relevant for the practice as well as the understanding of Waldorf education.

Based on the idea of an education towards freedom, Steiner's educational rhythms were in this article seen in relation to the body, to emotions, to age-appropriate learning, to non-tiring school lessons, to sleep, and

finally to intimate qualities of social interaction. Taken as a whole, these suggestions for a rhythmical pedagogy attend to qualities of a bodily, psychological and spiritual nature. According to Steiner, an education aiming towards human freedom should sustain fruitful conditions for the human spirit to flourish in a healthy and vital body and in a richly developed psyche (2004b).

For Steiner, all rhythmic and educational activities are embedded in art and aesthetics. Similar to Whitehead and Lefebvre, art is a medium in which education can thrive, but also an end connected to values and ethics. Steiner expands his view of teaching as an art by stating: “The point is to stand beside the child on the basis of an intimate knowledge and art of psychology, which is both an art of life and an art of spiritual endeavor. This will do justice not only to artistic, but also to moral education.” (1996d, p. 83)

One can ask about possible outcomes on several levels when bringing rhythms to bodily, emotional and artistic experiences at school. Firstly, there is the basic evidence that variation is necessary for sustaining awareness and concentration. Secondly, attending to the rich world of developing bodies calls for a balanced teaching with alternations between activity and repose, between sense experiences and intellectual contemplation, and between taking in and creating new. Thirdly, connecting rhythmic variations to a broad vision of teaching as an art aims at freeing education from such everyday micro-practices that make it boring and overly predictable. It can be argued that the three mentioned aspects — variations in activities, bodily nurturing rhythms, and the art of teaching — are all “pointing to possibilities, to acts of becoming and to perspectives of transformation rather than to stable truths”, to repeat a phrase from the considerations above.

The potential for including the rhythms of sleep and waking in education adds another dimension to classroom activities. From one perspective, sleep is the break, the interval between events. It gives every new day a quality of starting afresh but also of coming back to previous learning. Starting as well as ending a lesson point in this way (both backwards and forwards) to qualitatively different phases in the larger rhythmic process of learning. Including the interval of the night in pupil learning can be understood as a gesture of respect, of holding back, and of letting pupils individually elaborate the subject taught. The night gives time and space for pupils’ own experiences — it respects their freedom.

Steiner adds further depth to the theme of sleep by asserting that sleep is more than an emptying of consciousness. What happens when we sleep? What happens when experiences pass out of consciousness and re-enter the following day? According to Steiner, sleep is a spiritual activity where experiences are transformed (1996b). In this sense, sleeping is an everyday mystery, a rhythmical ‘partner’ giving depth and resonance to the waking life.

Steiner’s three-step rhythm in teaching starts with the outer and more objective presentation, then leads the subject matter into memorisation, and after a night’s sleep the teacher will invite pupils into processes of understanding, judgment and reflection. The phenomena taught are taken up the following day with a “reflective, contemplative approach” (1996b, p. 52). Processes of internalisation and individualisation are afforded. In addition, Steiner indicates that these three steps represent a movement from willing, via feeling, to thinking. This same threefold movement characterises Steiner’s conception of development throughout the first three seven-year periods. There is thus a mirroring of the developmental path belonging to all school years into the structure of two subsequent lessons. Interestingly, this is parallel to Whitehead, who places a similar integration of part and whole at centre stage in his educational thinking. Different from Whitehead, though, Steiner’s micro-version of the willing–feeling–thinking process inserts a significant break or caesura before the last step, before the thinking is engaged. By letting the experiences of the night come prior to the task of independent cognition, Waldorf education intends to create a space of freedom for the process of thinking, and also lets the mysteries of the night take a more active part in pupils’ learning. It is noteworthy that Steiner, in his educational lectures, does not go into much detail regarding any spiritual events taking place in sleep. He simply lets the implied nightly spiritual experiences act as a silent background for individual cognition and reflection the next day. This is just one of many examples of how Steiner is very careful when he relates spiritual ideas from anthroposophy to the classroom activities of his Waldorf pedagogy. An educational practice can take the night into account also without subscribing to spiritual interpretations of what happens during sleep.

Current research confirms the importance of sleep for maintaining cognitive functions: “sleep loss has its largest effects on attention, working memory, and cognitive throughput” (Goel, Basner, Rao, & Dinges, 2013, p. 163). Today there is almost a consensus that sleep is a factor in intellectual learning (Hagewoud et al., 2010), even if sleep itself largely remains a ‘black box’. One could say that Steiner’s account of sleep accords with contemporary research, but, in addition, aims at opening this ‘black box’ by relating sleep to spiritual experiences. Although teachers usually have no direct knowledge of what their pupils unconsciously experience in sleeping, being open for the mystery of the night could influence their attitudes regarding how they attend to pupils’ reflections the following day.

The last aspect of Steiner’s rhythms in education deals with communication between teachers and pupils and ends up with considerations regarding the rhythmic nature of sense experiences in general. Again, the mystery of sleep, of a possible diving down into another dimension of consciousness, is advocated by Steiner. What does it mean to see communication, dialogues in the classroom, and sensing in general as a form of breathing between moments of sleep and waking? Again, the brief moments of a non-awake consciousness are understood by Steiner as deepened indwelling, as a ‘touching’ of something essential. A simple and pedagogically relevant attitude for teachers would be to attend more closely to how communication and sense experiences are allowed to resonate in their pupils. There are instances in education where deeper insights grasp pupils and teachers, if such moments are given sufficient attention and time to unfold.

Massimo Cacciari writes about an “eschatological power inherent in the moment³” (Cacciari, 1986, p. 11). In a similar vein, Friedrich Schiller contemplates how thought transcends the continuous flow of time and creates moments of insight: “Ever-fleeting time stands still whilst the scattered rays of consciousness are gathering and shape themselves; an image of the infinite is reflected upon the perishable ground” (Schiller, 2005, p. 81). Both authors seek to understand the significance of such moments, which often evades our attention, and both connect such fleeting instances with the eternal and spiritual. To envision the rhythmic flow of time as a series of openings into the eternal or the unknown can inspire teachers to be more mindful with regard to rhythms of communication and sense activities. Are pupils given sufficient time and an atmosphere of trust where such subtle forms of indwelling and insight can take place? A Waldorf teacher, attending to Steiner’s ideas and suggestions regarding rhythms in education, is in many ways obliged to develop sensitivities and a creativity not unlike Lefebvre’s rhythm analyst. In this sense, teachers are regarded not only as conveyors of prepared learning contents, but also as fellow humans sharing the time spent together at school in a fuller way.

To conclude, one can say that the spiritual and the everyday can come together in teachers’ questions, imaginations and wonderings regarding each of Steiner’s proposals for making education rhythmical. Steiner’s spiritual research has been viewed in relation to esoteric and philosophical traditions. In accordance with Adorno, his metaphysical experiences were treated as open in the sense of constituting a dynamic relationship between truth and fallacy. Steiner’s spiritual research is thus seen as providing possibilities and challenges to education in such a way that the question of truth can become turned into a question of life.

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What can today’s teachers learn from Lefebvre, Whitehead and Steiner’s different works on educational rhythms? Multiple answers to this question have been proposed in these two articles. Each author highlights different aspects of rhythms in learning and teaching, and as a whole they provide teachers with suggestions and possible insights into aspects of education that are often hidden or forgotten. Instead of pointing to shortcomings or critical issues in the three approaches, this article has laid out the contents of their ideas and searched for potential relevance and inspiration. It would be of little sense to treat any of these contributions as prescriptions or systems to follow. However, as lenses, as magnifying glasses for getting closer to the life and art of temporal processes in education, each author voices a way of getting crucial and vulnerable moments into focus. Initially, the following question was posed: “What shall we do about time in education?”, while referring to Biesta, who was asking whether it was “possible and desirable to take time out if we want to get at what makes education educational” (Biesta, 2013, p. 87). These two articles have

3. Translated from German by AM.

attempted to show how time's rhythmic dimensions can reveal possible routes into renewing and enlivening education. From Lefebvre, a sensitised and therapeutic approach could be developed taking into account the potential liberating forces in social as well as natural rhythms. Whitehead invites his readers to envision a developmental panorama of education in terms of the breathing rhythms of freedom and discipline, aiming at fostering the wise, responsible and competent citizen. Steiner has brought a wealth of concrete suggestions to teachers and, at the same time, has given far-reaching spiritual perspectives to what takes place when learning and teaching unfold rhythmically. Seeing their accounts together, one can conclude that bringing rhythms into education is preparing for a pedagogy of becoming.

In these two articles, rhythms in education have not been treated as problems to be solved or techniques to be mastered, but instead as mysteries with which to live. They have provided questions that might not be fully answerable, but that could serve as companions to teachers' self-reflection and artfulness.

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