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Upper-School Teaching at Steiner Waldorf Schools: Cognitive Challenges for the Embodied Self

Part II

Wilfried Sommer

Lehrerseminar für Waldorfpädagogik Kassel, Germany
Alanus University of Arts and Social Sciences, Alfter, Germany

Summary. The processes at work in Steiner Waldorf (hereafter 'Waldorf') upper school teaching show specific characteristics. They address, for example, heterogeneous learning groups, structuring the learning process in a manner that engenders in the student communication with the world and with themselves. The didactic preparation of teaching material should not merely facilitate this but also consider the embodied self with its diverse life modes. This process shall be considered in the language of phenomenological anthropology. The dialectics of the centric and eccentric positions will be the subject of discussion as will be the significance of engaged and detached perspectives.
Part I of this article (RoSE Nr. 1/2010), discusses not only the teaching processes but also their philosophical setting. Two concrete examples from the classroom illustrate how this then translates into the appropriate path in practical teaching. Part II of this article will examine classroom methodology. This will discuss how classroom practice can help students, as embodied persons, to relate to their need for intellectual positioning and thus develop a way of thinking that does not alienate them from themselves as persons but puts their embodied, personal existence into context.

Another step toward education in practice: The methodology of teaching with regard to the embodied self

So far, this article has covered the epistemological or philosophical orientation of Waldorf education. It explained how a phenomenological approach to science teaching transfers this philosophical orientation into a cognitive praxis from which students learn to think in harmony with the phenomena. The aim of such an approach to teaching is to develop a dialog-based reasoning disposition.

From the foundation of Waldorf education, and especially when the first school reached upper school level, the teaching *methodology* was developed with this epistemological orientation in mind. At the same time, special attention was being paid to the embodied self of students aged 12 years and over. In fact, this became the benchmark for phenomenological teaching (Steiner, 1956).

The logical functions of the forming of concepts, judgments and conclusions are here viewed as key processes in the understanding of an embodied self. The focus is not just on the correlation of statements or the actual progress of thinking but rather on the question: Which modes of its bodily existence does the embodied self conceptualize, judge and draw conclusions from (Steiner 1975, Steiner 1988)? The quality of understanding is grasped in a specific way and developed for the purposes of education (Schieren, 2008).

The ambiguity of centric and eccentric positions as an element of teaching methodology

In middle and especially upper-school main-lesson teaching at Waldorf schools, the processes of understanding evolve in ambiguity and, at times, in polarity. Lessons are often structured so as to speak to different modes of the bodily existence of the students. The embodied self experiences different alternatives of its conscious presence. In doing so, it is embodied in a variety of ways which, if the lessons succeed, stimulates the diversity of its human existence.

This becomes especially prominent when lesson content or a subject is carried over to the following day rather than didactically reducing to a single lesson a learning process of problem presentation, problem processing, recap and application. Extending lesson content over two school days enables different life modes of the students to be addressed particularly clearly. On day one, the lesson may be structured so that the students approach the lesson content in the way it is presented to their senses i.e. in an immediate, understanding and perceiving manner. They explore the subject out of a state of being centered in their own bodies. The passing of the night enables a second look at the subject, now taken from a reflective distance, with the benefit of an overall view and an interest in grasping contexts at a higher level. In a life mode tending toward the eccentric position as characterized above (Part I), a new comprehension emerges, and the processes of understanding take shape. The ambiguity of bodily existence is taken into consideration by giving lessons a clear phase structure, and the reflexive distance of the eccentric position is enhanced by the passing of time overnight.[1] What does this mean specifically? Main lessons explore a subject over a period of three to four weeks in daily double periods. The methodological structure of extending lesson content often combines the second half of the first day's double period with the first half of the second day's into one unit (*Figure 5*).

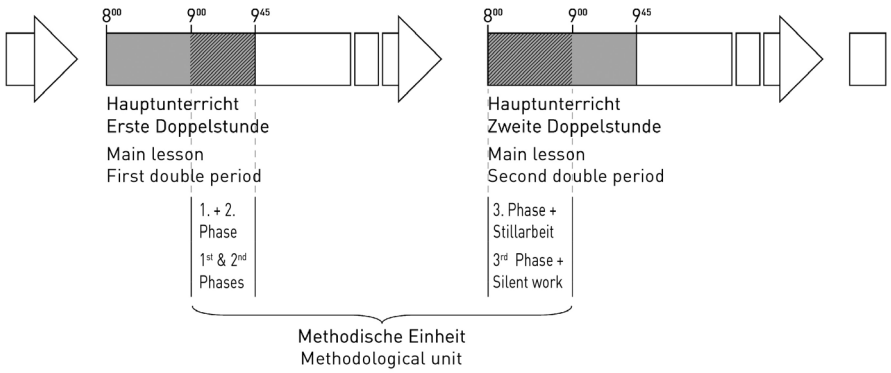

Figure 5. Temporal and methodological structure of the main lesson.

A classroom example – Part 1: The second half of the first double period

In science lessons, especially chemistry and physics, the experiment or experimenting is the primary focus. This includes both demonstration experiments and students' experiments.
Many of the experiments are part of large-scale phenomenological experiments designed to let the resulting phenomena have a strong sensory impact and sequenced to highlight the significant conditions. For example, a tin can is placed in a vise and the bottom of the can attracted by a centrally arranged electromagnet. The magnet is then powered on and off at varying intervals. Every time this happens the tension on the metal eases which produces a noise. Due to the different lengths of the intervals, the students realize right away that the noise of the can's tension being released is merely something that serves to introduce the process and is a dependent part of it. The noise characterizes the tension in the tin can. Only when, by means of a wire arranged near a cogwheel, the intervals between powering the magnet on and off are markedly shortened - to approx. 40 to 400 times per second - the noise becomes a tone. This tone has the same pitch as a piece of cardboard (or the wire) touching the cogwheel used for powering the magnet on and off. A transition has taken place from noise to tone. The pitch depends on the speed at which the cogwheel turns. The characteristics of the tin can, as were apparent in the noise, become of secondary importance. The electric generation of sounds gains center stage.

1. The present article deals with Waldorf teaching methodology only with regard to the results of phenomenological anthropology. The results from sleep research and their relevance for a teaching methodology that integrates the distance or passage of time overnight into phasing of the lesson content are beyond the scope of the present article. It should be noted that even the everyday observation of oneself shows how many things in life tend to adjust themselves with the benefit of a night's sleep. The passage of a night often gives us renewed energy for the tasks of the day ahead. This energy can be called on even if, at the beginning of a school day, during the first hour of the so-called main lesson, laws or individual views are acquired at a reflective distance.

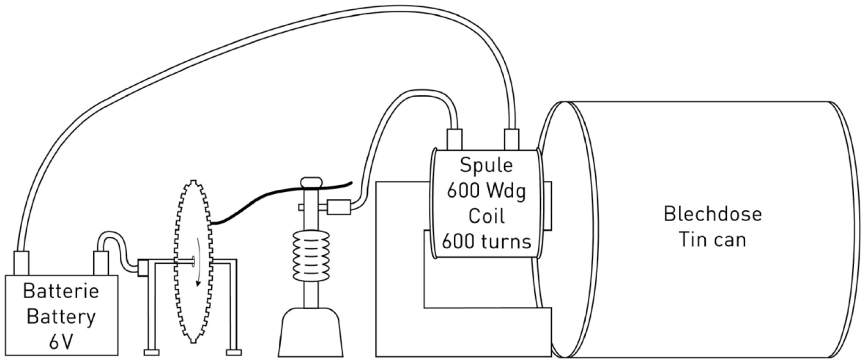

Figure 6. Sounds are produced mechanically and electrically by touching a cogwheel with a wire. The bottom of the tin can is attracted and released and the electrical circuit is closed and opened accordingly by means of connecting the wire to and disconnecting it from the cogwheel, respectively.

The students' powers of observation are cultivated in a sensory-understanding manner (Figure 6). The sensory nature of the process in the series of experiments is designed to be self-explanatory. During this phase of the lesson, the teacher must not interrupt the students' interest and empathy aimed at the sensory phenomenon by verbally reflecting on it. The experiment speaks for itself and focuses the attention of the class. Ideally, the teacher can support this attention not only by leading the experiment but also by showing an interest in how the phenomena would unfold in this particular instance. The challenge is to let the senses capture the uniqueness of the experience.[2]

The learning process can benefit from such a phase of an understanding entering into the sensory nature of the phenomenon by enabling the students to recall and restructure the events for themselves, and to delve into the characteristic moments of the experiment. Thus, they internalize the experiment beyond the sensory observation, adding the distance of memory. At the same time, the teacher must ensure the students master the terminology necessary to verbalize, summarize or reflect and inwardly expand on the experiment.[3] On this basis, they will be able to produce a description of the experiment's structure, as setup, execution and observation; the analysis of the experiment remains open and only takes place in the following double period.

A classroom example – Part 2: The first half of the second double period

Analyzing the experiments makes the students aware of the contexts of the experiments and helps to forge the connections required to complete their understanding. How this understanding is achieved by phenomenological teaching concepts has been explained above (Part I).

With reference to the experiment involving an electromagnet, a cogwheel and a tin can bottom, it remains to be established how it is possible for the tin can to produce the same tone as does the wire pulling against the cogwheel. The next questions are: How do we progress from a tin can to a speaker? and What are the prerequisites for a high-quality speaker, i.e. one without the high levels of inherent noise as produced by the can?

In this phase of the lesson, the students need to confront what they experienced and find functional units: Cogwheel and wire act as a switch in the electrical circuit; 'power on/off' is a signal that controls the electromagnet. The magnet attracts and releases the bottom of the can at such a high frequency that any ringing caused by powering the magnet on/off becomes irrelevant. Finally, the frequency at which the magnet is switched on and off determines the pitch of the tone. The wire at the cogwheel vibrates at the same frequency as the tin can.

With the benefit of temporal distance, the complex of ideas can be structured. The temporal distance allows the immediacy of the sensory impression to be replaced – the general structures and laws are lifted onto the level of awareness. The more straightforward and impressive the previous day's experiment in the classroom and the more clearly the students are then able to structure and retrace the sequence of events, the better the basis from which to start their search for an insightful context. By employing sufficiently open questions and a suitable presentation, it is the teacher's job to let the students find that context for themselves. In this way, the students do not have the context presented or demonstrated to them as part of the experiment but the experiment speaks for itself and they explore the context independently. In the process, any classroom discussion or team work refers to something experienced and not primarily to previous knowledge. It is most notably the previous day's experiment that is at the center of the search for the insightful

2. In the shorthand convention as it has established itself in Waldorf teaching, this is the first part of the threefold main lesson.
3. Second part of the threefold main lesson. The second part of the threefold main lesson immediately follows the first part during the second part of the *first* double period.

context. The classroom discussion is based on the same foundation for all. Any problems that may have arisen from the previous knowledge of some of the students become marginal. In the experience of many Waldorf schools, this is why girls play an equally central part in the course of the lesson, and especially in classroom discussions, as boys.[4]

In short, for one day of experiments the teacher has to work without the reflective distance which would enable the connections necessary to understanding to be forged. In this way, the students can experience the sensory presence with heightened intentionality, enabling them on the following day to develop these connections by themselves.[5] Obviously, any results achieved in the course of this must be summarized by the students in their main lesson books or portfolios. This is normally accommodated by a so-called silent phase in the middle part of the double period.

While the structure of the physics lesson used in this example may differ from that of other lessons in regard to subject-related details, the methodological approach at its core remains the same. When teaching history, experiments are replaced by a vivid account of the events, the facts, as they unfolded in space and time. In place of the structuring of the impressions gained from an experiment follows a phase of the lesson where the students further embed the accounts by working with documentary material, perhaps highlighting individual figures and their characteristics. Finally, an evaluation of the experiment is replaced by reflections that can help unlock historic contexts.

In mathematics, the second half of the first day's double period could be used for exercises featuring specific questions. (See above Part I, Figure 4: The triangle is projected from a vertical plane into a horizontal plane). The questions are compared with one another. In an initial structuring, the problem is absorbed by the students, who thus make it their own. In the first part of the following day's double period, questions emerge and develop as to the laws governing the calculations and geometric problems that were discussed and worked on the previous day. See above: Where is the image point located if the projected straight line runs parallel to the horizontal plane?

The first day sees vivid, subject-related experiences take place and unfold. With the benefit of a reflexive distance, the second day enables the context to take shape.

The experimental (physics) or illustrative (history) phase of the lesson is designed so that the students can approach the phenomena with empathy or create for themselves an exact appearance of the events as they occurred in space and time. The lesson will have borne fruit if the students take an interest in the world while feeling directly centered in their bodies. Anything that dissipates this centering in the body and obstructs the reflexive distance plays a lesser role. The objective is to achieve full bodily presence as the life mode for classroom teaching.

During the experiments, the students penetrate their bodies directly and right through to their sense organs. In an expansive movement, they orientate toward the phenomena. In doing so, they feel themselves to be in their bodies, which remain the (latent) points of reference of their experiences. – Experiencing the gravity of their bodies is also part of the entirety of their bodily sensing. This applies especially to their feet and legs, but also permeates the body as a whole. At the same time, the felt body is experienced as an object which gravitates, as all objects on earth do, toward the center of the earth or rests on it. The earth's gravity gives that of the body an unambiguous connection which is aligned with the center of the earth. For the students in their felt bodies, this is also an expression of an alignment with something that is unequivocal. Their bodily sensing or the fact that they, as persons, are incarnated in a body enables them to access the realm of experience of the structures of unambiguous connections (Rittelmeyer, 2002).[6]

With every perception made, the students' free flow of thought movements, their imagination and inner images of unambiguousness have to adapt to the phenomena in the outside world. While processing inner experiences, they turn to the perceptions they receive as sensory beings. They live this process. They combine the flow of their thought movements with the phenomena. The progress of thinking merges with or permeates the embodied existence with its sensory experiences.

4. Third part of the threefold main lesson. It forms the first part of the *second* double period.

5. See footnote[8]

6. Observations of developmental psychology in Waldorf education relate the strong sense of gravity as displayed by the posture and gait of prepubescent and pubescent students to their ability to experience the imperative necessity of causal conditional structures. It is particularly in the students' gait that the experiencing of this gravity becomes very apparent. The same experience is often enjoyed to the full when students constantly rock their chairs or ride their skateboards with impressive skill. These bodily experiences in the earth's gravitational field are the 'physical aspect' of causality. See also (Steiner, 1956).
In a morphological study on puberty, Rittelmeyer interpreted the results of various growth data of the bones, muscles and subcutaneous tissue of teenagers. In an attempt 'to think of different morphological events as a form of synthesis of situations to be interpreted phenomenologically', he outlines how the gravity of the extremities, which is linked to bone growth, may induce clear impulses of will which challenge the adolescent I by virtue of its slightly modified form of embodiment. This, in turn, may well have repercussions for the way they experience their identity. (Rittelmeyer, 2002)

In Waldorf education as in logic, this process of the actual progress of thought movements is called conclusion. The terminology makes it clear that the unfolding of logical functions is always thought of as the unfolding of an embodied being rather than merely a formal operation. The conclusion toward the phenomenon, the unambiguous reference to a concrete experience, is made by an embodied being who explores their realm of experience of unequivocal connections. Thus, in the perception, the bodily sensing of gravity (feet and legs) as an experience of unambiguousness and the unambiguous reference of flowing inner experiences to the concrete phenomena together make up a whole. The conclusion – or, put more philosophically: the perception-judgment[7] – is recognized as an achievement of the embodied person who, when forming a conclusion, relies for support especially on their feet and legs.

In anthroposophical terms, the experiment (physics) and the illustration of events as they took place in space and time (history) represent an embodiment of the logical function of drawing conclusions right down into the feet, an incarnation of the I right down into the legs and feet (Steiner, 1988). In the context of Waldorf education and its anthroposophical foundations, the incarnation of a person, or of the I, is seen as a dynamic event capable of more or less penetrating the body. In the eccentric position of the reflective distance, the I is not incarnated in the entire body. Fully centered in the body and the centrifugal movements of interest and perception emanating from it, the I is fully incarnated (Steiner, 1988).

From an anthroposophical perspective, the aim of this phase of the lesson is to fully incarnate the students. In the act of perception, they develop their thoughts by fully referring to their bodily existence. Phrased more in the language of phenomenological anthropology, students center as much as possible within their body and access the subject matter from within that centered position. Thus, the exploration of something new is initiated in a life mode that is characterized by fully inhabiting the body. *The state of inhabiting the world is thought actually right down into the physical body and, in teaching, should ideally be implemented as purely as possible.* (Varela, 2002; Sommer, 2007).[8] In the context of the thoughts developed here, hand gestures may spring to mind that are characteristic of people involved in discussions or presentations. Gestures are frequently used when weighing up options or itemizing points in a discussion by performing a horizontal, articulated gesture with one arm. As soon as conclusions are drawn or lecturers proceed to make their point, they almost inadvertently lower that arm and perform a more vertical gesture. As they progress in their line of thought, the gestures move into the vertical position, aligning with the earth's field of gravity. The gestures reveal how conclusions are drawn in a particular mode of a person's bodily existence.

For the students, an empathy developed out of the centrality of the bodily existence and living in the centrifugal movement of the sense perception, always includes an element of release. The release may be, for example, that of applying a perception immediately to their own personal experiences, of letting one or the other event resonate emotionally or of making a particularly striking perception the center of their own emotions. But it is exactly those steps that help the students make their perceptions their own. Personal withdrawal in the perception is replaced by the person who experiences themselves in their subjectivity, emotions and the abundance of familiar, previously gained experiences.

In the lesson structure of Waldorf schools, an experiment or a presentation is to be followed by a phase where the previously experienced is structured, characterized and accompanied emotionally. This is designed to accommodate the subjectivity unfolding within the students. *Direct, personal empathy and involvement are part of the process of connecting with new experiences. They form the basis of the second stage of a threefold lesson structure*. First, the view is directed toward the outside, exhausting the possibilities of one's own bodily existence. Then toward the inside, including one's own experiences and emotions. After a centrifugal embodiment toward that which is to be perceived, a disassociation takes place, enabling one's own involvement, which is experienced in a centripetal movement, to come into its own.[9] Whenever looking for an overall context or developing connections required to complete the understanding, increasing the distance between the students and their perceptions becomes necessary. Overviews emerge where many experiences become readily comprehensible and can be reduced to what is essential. The subject matter is approached from an outer standpoint. No longer is it necessary to merge in a state of wakefulness with the intensive experience of a perception. Rather, an inner distance is put between oneself and one's experiences so as to enable them to present themselves

7. In Chapter 11 of The Science of Knowing: Outline of an Epistemology Implicit in the Goethean World View (Steiner, 1960) Steiner outlines the concept of perceptual judgement as follows: 'Through a perception-judgement, one recognizes that a particular sense-perceptible object, by its nature, coincides with a particular concept.'

8. The relationships between cognition and embodied action developed in phenomenological anthropology can be viewed as closely related to constructivism. Varela, for example, thinks of cognition as embodied acting. He is seeking to discover how subject and object determine one another. 'This is exactly the intention of phenomenology which is so crucial for modern cognitive science: To explore one's own experiences and perceptions without prejudice and premature judgements, to include oneself as a scientist in the reflection in order to avoid a disembodied, purely abstract analysis' (Varela, 2002).

9. If we are personally involved, we are not merely interested in the subject at hand but we are also emotional in our inner presence. Hence, at this stage of the lesson, our judgements resonate with emotion. Various considerations emerge or a search for comparable memories ensues. If these thought movements are accompanied by more or less pronounced gesticulating, this often takes the form of hand gestures which reflect a weighing up. As embodied beings, we combine our bodily experiences with the judgement processes. In the language of anthroposophy, 'the judging itself takes place in the mechanism of arms and hands' (Steiner, 1988, Lecture II). In short, this stage of the lesson is often referred to as the 'judgement phase' or 'characterization'.

much like elements of an area to be described in geographical terms. The immediate bodily presence in the centric position of the perception is replaced by an eccentric position that puts the experiences at a reflexive distance.

The eccentric position marks a different life mode for the students. They no longer grasp an idea from the direct form of the embodiment, as described above. Rather, in the time stream of their thought formation, they strive to build a panorama in which contexts reveal themselves. Thus, the perceptual panorama attains a degree of coherence. This perceptual panorama loses the direct signature of the body in order to gain the ability to understand contexts.[10] What phenomenological anthropology calls the eccentric position, anthroposophical anthropology refers to as an activity of the I, where this activity no longer fully connects with the life processes of the body but partially withdraws and acts independently. The life processes are used to develop conceptual contexts. However, they are not penetrated to the extent that a person, fully embodied, would turn toward the outside. The character of complete embodiment in the centric position is referred to as character of being, and the conceptual contexts developed by a person in a reflective distance as figurative character. In short, the direct bodily presence with its character of being is acquired at the cost of the overview image, and the image of the overview concept at the cost of qualities of being. This takes place while the person is in different modes of embodiment. In the act of perception, they must adapt the flow of their thoughts to a given situation and constantly strive for substantiation. In doing so, they can enjoy the freshness of new impressions and be inspired and open to new experiences. However, they must relinquish their own reflexive movements. If, on the other hand, they expand their thought movements into overview perceptions or generalizing concepts, they lose the freshness of new impressions but gain the ability to recognize contexts. One might say, with slight exaggeration, that the recognition of contexts always entails a degree of distancing oneself from the immediacy of the phenomenon; the approaching of perceptions entails a measure of sacrifice of the deeply human quality of positioning ones thoughts in a reflective distance.

The methodology of Waldorf education endeavors to initiate interaction between those two modes of human life in order to strengthen the students' state of inhabiting the world. By welcoming new experiences with empathy, by grasping presentations or experiments first of all outwardly, by having the teacher initially hold back on personal statements and abstract elaborations, students learn to root themselves in complete embodiedness, to center in their bodies and to welcome the world as something they are privileged to experience. The immediate presence in their bodies becomes a gift that opens their eyes to the outside world. Provided an encounter with the world is developed accordingly, this means stimulation, a wealth of experiences and further progression. To what extent the lesson content plays a central role in this has been discussed in Part I: "Waldorf education: The embodied self in heterogeneous learning groups" and "Entering the philosophical workshop".

Abstract concepts are developed in a reflective distance so long as a wealth of experiences exists to provide a basis for this. It is necessary not to make the phenomenon the illustration of the abstraction but the abstraction the essence of actual experiences. In this way, the students may develop habits of judgment that relate to their embodied presence.[11] They learn to apply their desire for an intellectual basedness to themselves as embodied persons and thus develop a way of thinking that does not alienate them from themselves as persons but contextualizes their embodied, personal presence. The eccentric position as a life mode then acquires its specific character from a strong centeredness in the body. Life in the reflexive distance does not mean alienation but being fully based in life. Intellectual self-discovery is not supposed to be an abstraction but a thought-based, life-filled relationship with the world. With slight exaggeration, the body is not meant to be a vehicle for intellectual potential but a gift through which intellectual potential may actively bond with the world – the world and the body as sources of a wealth of experiences.[12]

Frequently asked questions

With reference to the teaching methodology of Waldorf schools as discussed in the previous section, many questions arise, particularly in middle and upper-school lessons. The relationship to a constructivist view on learning and teaching processes is as much a focus of interest as is the implementation through forms of learning in stations, teamwork or cooperative learning. Some of these questions are discussed below.

Why is teaching at middle and upper Waldorf schools not based on abstract concepts, as this would enable subjects to be learned in their general form?

Abstract approaches, as would be taken in physics lessons under the aspect of conservation of energy, represent large systems of concepts for the students. They derive their power and universality from their remoteness from immediate familiarity, simply

10. We usually position the perceptual panorama in a space inside or in front of our heads. In the language of anthroposophy, our ability to form ideas and perceptions is linked to the head (Steiner, 1988; Lecture II).

11. In his relevant lecture, Steiner says: 'Thus, it is apparent that man in his entirety is part of the logical process. And it is very important to realize this, to think of the entire human being as part of the logical process.' (Steiner, 1988)

12. An exception to this would be science lessons with a primary focus on models. There, the only question is to find conceptual constructs where the logically necessary consequence fits the naturally necessary consequence of the phenomenon.

by virtue of their abstract nature. This is why this type of lesson tends to let the reflexive distance dominate and may cause the students to argue in the eccentric position of the bodily existence.

The hope is that abstract approaches establish links within the lesson content. Those approaches can make individual phenomena appear like exceptions to a general principle. As a result, students remain primarily in the reflective distance, get less involved in the wealth and multitude of exceptional phenomena and are less likely to find what is exceptional within the universality of phenomena. However, it is just this lived experiencing of the transition from what is unique to what is general that is felt to be carrying or even generating meaning. This is what Waldorf education aims for and thus views as a profile of its upper-school teaching.

Is it possible for any lesson content used in Waldorf upper-school teaching to be taught based on the methodological three-part structure of the main lesson, i.e. across two days?
No. As explained above, the methodological three-part structure is based on an unfolding of logical functions in order to speak to the students in different modes of their bodily existence. Purely abstract questions, the concrete elaboration of which is secondary, can only be discussed artificially within a methodology aimed at a mode of bodily centeredness and immediacy. To what extent abstract questions, discussed over prolonged periods of time, actually make for interesting teaching shall remain undecided.

If approaches to model physics are to be developed based on vivid experiments, as part of the third step of the physics main lesson, it must be borne in mind that while the experiment fits the model physics approach it does not make it inherently obvious. As a result, any subsequent analysis is unlikely to bear fruit without considerable teacher involvement. If the model structures are to be deduced by the students, the connection between the phenomenon and the approach of the model must feature in the first two steps of the main lesson. Then, in the third step, the question as to how the logically necessary consequence fits the naturally necessary consequence in the sequence of the phenomenon can be pursued. If this link is not established during the first two steps of the main lesson, the methodology is no longer in line with the lesson content.

At its basis, the three-step structure in physics main lessons is geared toward a phenomenological approach which replaces the logically necessary consequence of the model with organized sequences of phenomena. Strictly speaking, a method based on complete bodily centeredness is required only if the interest in knowledge is geared toward that which appears in the mode of bodily centeredness while, for the time being, holding back the question as to how the phenomenon fits the model theories and vice versa.

Is not the threefold main lesson structure a purely teacher-centered and therefore obsolete approach to teaching?
The answer would be yes if an educationally structured process of perception and judgment is confused with straightforward teacher-centered teaching.

The teaching methodology described above refers to a learning movement of the embodied subject, that is to say the student. This represents the frame of reference for the learning type that should be chosen. In the first part of the main lesson, as well as demonstrated experiments, forms of learning in stations or teamwork may be employed. However, it will remain among the key concerns of Waldorf education to let phenomena express themselves vividly and for lessons to be characterized by an attitude of questioning and methodical exploration of all that is new and unique about the phenomena. The primary task is not to synchronize previous knowledge.

In this step, the students can rely in their search for an insightful context on a foundation of lived experiences to which the lesson should relate. In this way, the teacher's role takes a 'back seat' as the students are required to make maximum use of their independent thinking. This may take the shape of a group discussion, students partnering up to produce charts, etc. or a discussion involving the entire class.

If, in this step, the intellectual challenge for the students is replaced by teacher-centered instruction, teaching mode and methodological approach are at a mismatch. This outcome would be undesirable indeed.

Does Waldorf education ignore the findings of constructivist teaching and learning theories?
As constructivism is multi-faceted, there is no quick answer to this question. In the public awareness however, conclusions from constructivist learning theories for teaching style are currently very popular if certain teaching procedures are presented in short films where students explore a given subject matter independently, either in extra-mural activities or learning stations, enabling them to modify their knowledge base in a constructing manner and, above all, expand it.

The above remarks demonstrate how Waldorf education structures the building process of the knowledge base, i.e. as a constructing process where the person of the student is geared to the potential or modes of their embodiment. The embodied

existence itself forms the framework for the constructing effort. Thus, the question as to how best to arrange a set of objects to enable the subject to sustainably construct a functioning and viable knowledge basis becomes secondary.

What is the teacher's role?
The detailed methodological preparation of the students' contact with the world.

Summarizing comments

We started with the question: Where in the core business of teaching lies the essence of Waldorf education? In doing so, we focused on the communication with the world and with oneself as it can be achieved in the classroom. Looking back, we can conclude that the communication and educational processes are geared toward the two basic life modes of the students' embodied existence – the education process of Waldorf pedagogy is linked to the human being.

In Waldorf schools, connecting the education with the human being is not merely limited to the structuring of a curriculum based on developmental psychology. Rather, Waldorf education sets itself the challenge of exploring processes of the spirit, soul and body as one. Hence, in upper-school teaching, an anthroposophy-based methodology of education emerges that views the spiritual processes of logical functions, i.e. conclusion, judgment, and concept formation, as one with the bodily existence of the students. This is where the views of the anthropology of anthroposophy, phenomenological anthropology and constructivism meet. How do students, as embodied beings, i.e. in accord with their bodies, construct a conscious, content-based world? How is the encounter with the world to be built on in order for this constructing process to make sense or be successful?

In the philosophical assessment of the ideas, on the other hand, clear differences between these three theories of learning emerge. Waldorf education takes an epistemological position that assumes an actively developing, spiritual existence. This expresses itself in different modes, i.e. as an outer form that appears here and now, and as thinking categories of embodied persons. The closer these modes join together, the more the individual finds itself in a holistic state. In a philosophical sense, this state, which is frequently attributed to Waldorf education, is very tangible.

The need of prepubescent students and beyond for a thought-based self-discovery and intellectual basedness is a major influence on how they are taught. Waldorf education meets this need in order to address the whole embodied existence. The objective is not for the student to achieve the position of an intelligent and subtle observer but a learning disposition that embraces the phenomena with enthusiasm and is open to instruction by them. The many-layered contact with the world represents the source to which thought formation learns to relate. The relationship with the world will also build on and develop personal existence and personal competencies. – It is at this point that the teaching method and the philosophical basis of Waldorf education merge. Self-confidence is encouraged to connect with the world as this is its chance to place itself, increasingly, into a holistic state. Put in psychological rather than philosophical terms, in youth, the self's sense of being at home in the world is conceived through learning processes which include bodily identification. If this can be achieved, there is a well-founded hope that the way students explore the world will not amplify or even cause feelings of alienation and loneliness.

In this approach to teaching, the teacher's role focuses on establishing and developing contact with the world accordingly. This is where, in the teaching and education process, their task lies. The relationships between the phenomena are for the students to explore independently. To facilitate this, teachers must structure their lessons in a way that allows students to develop their own understanding and acquire their own experiences independently thus enabling them as individuals in order to gradually find themselves.

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