A Bold Step Forward

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As far as the natural sciences are concerned, Waldorf schools have kept pace. But, often, there is not enough money to make room for modern natural sciences. This was shown to be true at a symposium held at the Freien Waldorfschule in Stuttgart, Germany.

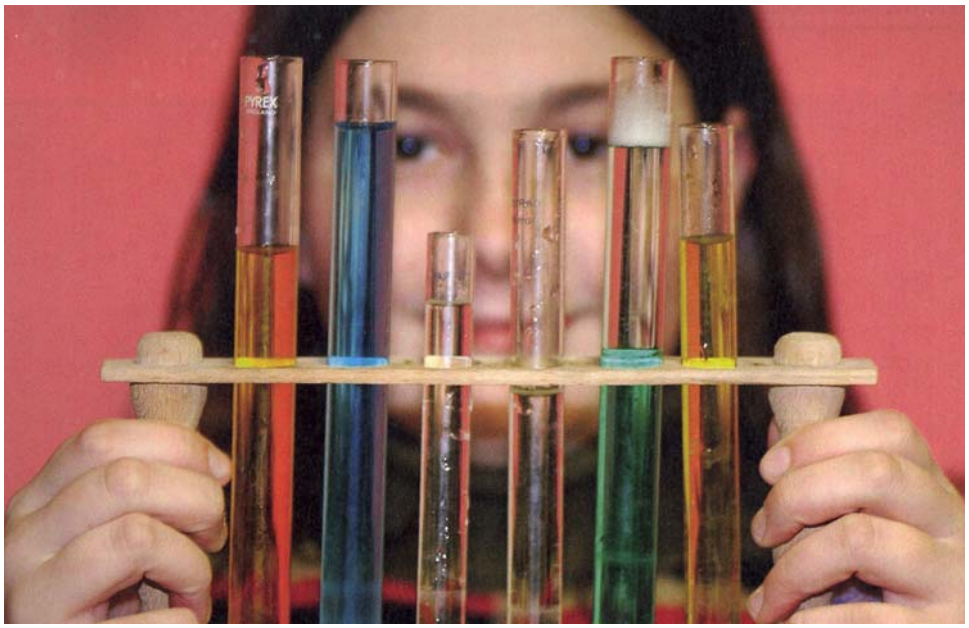
A bold step

The Uhlandshoehe Waldorf School Foundation hosted a public symposium at the beginning of May 2010 in Stuttgart on the topic: *Development of Teaching of the Natural Sciences in Our Schools*. With a prominently occupied podium, the discussion about academic natural sciences was opened.

The Uhlandshoehe Waldorf School Foundation was started in October of 2006, not least of all, to secure the ability of the school to meet the future: a venture that has likely not been seen in the German Waldorf school landscape. The purpose of the foundation is to promote the ability of Waldorf education at the Uhlandshoehe Waldorf School to meet educational needs of the future. The foundation has a special objective with this symposium: to further development the instruction in the natural sciences.

Over and above the financing of regular school operations through parents, donations, and state subsidies, it is important that special projects that are closely associated with the objective of the foundation be promoted. This includes: new and long-term strategies for attracting teachers and aiding young talent, advancing strategies for quality control in instruction, and establishing and managing a natural sciences center for chemistry, physics, and biology.

Certainly, almost all Waldorf schools have a reputation for fine instruction in the arts: good theater, eurythmy, orchestra, and offering interesting learning methods. But what of natural science?



The first Waldorf School in Uhlandshoehe has a special and traditional connection to these disciplines. After the school was founded, Rudolf Steiner held three natural science courses there; the "warmth course," the "light course," and the "astronomy course."

To begin the symposium, biologist Rolf Knippers from the University of Konstanz gave a wide-ranging overview of the state of the sciences in the areas of evolution biology, physics, and astronomy, as well as human medicine and genetics. The audience, made up of parents and teachers from Stuttgart as well as neighboring schools, was immediately absorbed in the subject.

What is needed is also provided by the Waldorf schools.

There followed a lecture by a researcher on electrical current. Christian Liess from the Fachhochschule Konstanz (Technical College) about what today's industries expect from their employees. It may have been a provocative subject for some since Waldorf education sets a completely different course than conforming to the needs of industry. However, among the desired qualities named by Liess were found: a healthy sense of self confidence, creativity, alertness and good judgment, capacity for teamwork, good language skills, and a few other things that are in keeping with the goals of Waldorf education.

In the subsequent discussion, a topic was raised about further desired skills that are much in demand today: fluency in foreign languages, and the ability to think and judge according to scientific criteria, which ability being achieved

through education in the natural sciences. Peter Gallin, professor of didactic of mathematics at the University of Zuerich, added another focus: Through dialog-based learning, class offerings and their quality would be assessed not only from a teacher's perspective, but also from a student's point of view. There would be reviews to see to what extent an offered class could actually be accepted and processed. For a teacher, this perspective is not always easy considering they are accustomed to lecturing and presenting, but it contributes decisively to the success of their teaching efforts. Like Martin Wagenschein, Gallin is convinced that real understanding, especially of natural science, is possible only within a dialogue. In this connection, the teacher is less interested in the right answer to a problem being found and much more focused on the path the student has chosen to find the answer. Here also there is strong agreement with a goal of Waldorf education: to bring the students to a sense of independence and autonomy in their learning process.

Experience and Mental Training in Balance

The final talk by Martin Basfeld of the Freie Hochschule für anthroposophische Paedagogik (College of Anthroposophical Education) in Mannheim, Germany, made clear that especially instruction in the natural sciences was in danger of suffocating under the creation of theories. On the other hand, it should not remain in a state of pure phenomenalism. When it comes to instruction in the natural sciences, Waldorf education demands a balance between experience of sense perceptions and training of the mind through theory development.

In the final round of discussion, a practical insight crystallized: Modern instruction in the natural sciences requires appropriately equipped classroom space! What is presently available does not allow classes in natural science to be designed around interesting experiments. What is missing is an open, natural sciences facility that meets the needs of students in a day school with internships available.

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