

Events at The Nature Institute



Program for Hawthorne Valley Farm Apprentices

Each spring and fall Craig works with the apprentices from neighboring Hawthorne Valley Farm. In the spring the focus is on the landscape and plant communities in and around the farm, while in the fall animals take center stage. The main focus is usually the cow, since Hawthorne Valley has a dairy herd. We observe herd behavior and also study the cow's morphology and aspects of its physiology. One favorite activity is to put together, out of individual vertebrae, the vertebral column of different animals. Such an activity gives you a real sense of the interconnectedness of the parts of an organism.

Mathematics Alive—Geometry for Middle School Teachers

Eleven teachers from seven different Waldorf schools in the Northeast met for a middle school geometry workshop at The Nature Institute. The workshop was led by Henrike Holdrege and Marisha Plotnik, who has taught math and physics for many years in middle and high school at the Rudolf Steiner School in Manhattan. The workshop focused on the topic of area and included activities such as constructions with compass and straightedge, free-hand drawings, movement, imagination exercises, and much dialogue.

Here are some written comments from the participants:

It was wonderful to be a part of a group of people excited about mathematics/geometry and not inhibited to ask questions or say "I don't get it." (5th grade teacher)

I found this weekend very enlivening. It helped me to see the "big picture" around math teaching – all the way from the younger grades into high school. (6th grade teacher)

I found there to be a good balance between mental stimulation and practical application. I liked that light was shed on the vastness of the subject, but that I had enough time to come to an understanding. (5th grade teacher)

Not only did I learn a lot, I felt like you were guiding me towards seeing a universal truth that was/is very awe-inspiring. (4th grade teacher)

This weekend was inspiring, deep but peaceful, interesting and challenging without being overwhelming. It leaves me curious, wanting more exploration, not "too full" the way trainings have occasionally left me in the past. (7th grade teacher)

The teachers appreciated working with colleagues from other schools, and expressed their interest in future workshops on geometry as well as on arithmetic and middle school algebra. The Nature Institute will certainly continue with this work.

Activities Elsewhere

Evolving the Future: The Human Being in Nature & Nature in the Human Being

In November, Craig gave a short workshop and public presentation as part of this November's Think OutWord conference on nature and ecology, held in Harlemville, NY. You might not think that November is a particularly good time for observing plants. However, there is much to learn, for example, by observing the buds and branching patterns of trees. In addition, in northeastern deciduous forests, there is a small understory tree (or large shrub) that offers every



observant person (and some insects, of course) a special treat in late October and November.

Witch Hazel (*Hammelis virginiana*) flowers at this time—the only tree in our region that does so. Its flowers are easy to overlook, but once you notice them with their bright yellow and wispy petals, you’ll not miss them again. In the workshop the participants broke up into small groups, and after Craig pointed out one tree to them, he asked them to find others that were in flower and then to observe them carefully. How is the flower shaped? Is the number of petals constant? How are they arranged on the branches? Does every Witch Hazel have flowers?

In this way the workshop participants got to know a special member of the local forest community.

Other Events

- In April, Craig traveled to Kassel, Germany, to offer a weeklong course and lecture at an International Conference for Waldorf High School Teachers. Craig guided the teachers in practical exercises to make the activities of thinking and observation more conscious. This led them to a clearer understanding of the Goethean phenomenology that is foundational to Waldorf science education. While the course focused on method and on schooling our abilities as scientists and science teachers, course content was drawn mainly from the ninth grade biology block.
- Earlier, in March, Craig gave an afternoon workshop on plants and animals at the Pfeiffer Center, Spring Valley, New York.
- In January Craig traveled to California. He participated in a weekend invitational conference on phenomenological science and science teaching at the Summerfield Waldorf School in Santa Rosa, California. The working conference was sponsored by the Center for Contextual

Studies and The Nature Institute. It was a first step in creating new opportunities for science teachers to deepen their understanding of phenomenological science and experienced-based teaching, and also to collaborate with fellow scientists and teachers.

While in California, Craig also gave a talk on “The Plant as a Teacher of Living Thinking” at the Kalliopeia Foundation. In his talk, Craig demonstrated, through many concrete examples, how we can learn to model our thinking after the way plants live and grow.

- Also in January Craig traveled to Viroqua, Wisconsin, to lead a workshop for biodynamic farmers on “Schooling Observation & Thinking: A Goethean approach to studying plants and animals.” The forty workshop attendees engaged in phenomenological explorations of the qualities of plants and animals, the beings that lie at the heart of all agricultural endeavors. At the same time they practiced what Goethe called “exact sensorial imagination”—a way of coming alive to nature, or we might say, bringing nature to life in us.
- In November and December Henrike led four afternoon workshops on “Goethean Explorations of Light, Color, and Darkness.” Most of the participants were students in the local Free Columbia Art Course (Columbia County, New York).
- This past February and April, Steve facilitated two conversations at the Free Columbia Art Course. The conversations centered on the work of British semantic historian and student of the evolution of human consciousness, Owen Barfield (1898-1997). Course members were particularly interested in how we can work to escape the habits of thought of our own era, and enter more consciously into a creative relation with nature.

• The Harvard University Press book (*Genetic Explanations: Sense and Nonsense*), in which Steve will have a chapter, has been proceeding at the slow but thorough pace of that publisher. The book is now in advanced copy-editing stage, and presumably will be appearing within the next few months. We should be able to give you the particulars in the next issue of *In Context*. Steve's chapter is called "The Myth of the Machine-Organism: From Genetic Mechanisms to Living Beings." The list of high-profile contributors to the volume includes, among others, Harvard University's Ruth Hubbard, co-author of the classic and pioneering work, *Exploding the Gene Myth*; Stuart Newman, professor of cell biology and anatomy at New York Medical College; Eva Jablonka, the Tel Aviv University professor who has played a leading role in bringing the importance of epigenetics to wider awareness among biologists; and Evelyn Fox Keller, professor of the history and philosophy of science at MIT.

• Also on the publication front, Craig's chapter, "Exploration and Theory in Science," appeared in *Grow Small, Think Beautiful*, a book edited by Stephan Harding and published by Floris Books (Edinburgh). In this chapter Craig shows how in the Goethean approach to science "knowledge grows out of the careful interaction of human being and phenomena . . . Flexibility of mind, openness to the new, and the ability to let each new phenomenon stimulate the growth of fresh conceptions are the living qualities that characterize an evolving science . . . It is precisely this approach to the scientific study of nature that is now so desperately needed if science is to address the disconnect between humanity and the rest of nature that is the root cause of the global environmental crisis." In addition to Craig, contributors to the book include Satish Kumar, Jules Cashford, Fritjof Capra, Rupert Sheldrake, James Lovelock, and Helena Norberg-Hodge, among others.

Farmers' Course

In February, twenty three farm apprentices, farmers, and gardeners came to The Nature Institute for a weeklong course, a collaborative venture with Hawthorne Valley Farm and the Biodynamic Association of North America. On the first evening we all introduced ourselves and one theme in particular shone through: How can I, as a farmer, not become buried in all the day-to-day work? How can I gain a deeper inner relation to this work and sustain it over time?

It was clear: like most people today, farmers often feel overwhelmed; they are under pressure of time and have too much to do. How can they find ways to consciously cultivate relations to the plants, soil, and animals they work with, as well as to consumers and to the farm organism as a whole? These questions are real and personal, because no one in the course looks at farming as a mere job. Hardly any of them grew up on farms, and most have chosen to enter farming because they see the need for humanity to interact with nature in healthy ways. Is there a more fundamental place to begin than in agriculture?

In preparing the different sessions each day (projective

geometry, plant study, walks and observation outside, and astronomy), Henrike and Craig kept these questions in mind. We focused on a variety of exercises and practices that could help farmers become more attentive and to grow inner connections with their work. We also hoped that they would see how seemingly unrelated content areas do in fact relate to each other. When we begin to see such connections, we gain a deeper understanding of the world. As a young apprentice remarked in her evaluation:

The combination of the activities worked really well in fusing different concepts into a comprehensible focus. As the week progressed the intent behind each lesson became clearer, along with its connection to other lessons and to biodynamics as a whole. Switching from geometry to plants and then back to astronomy was nice because it provided me with an opportunity to explore and use different parts of focus. All lessons engaged me and excited me – because it just made so much sense.



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