

Proceeding Forward at High Falls Gardens

By Jean Giblette

It's sunrise, and our small but growing alliance of plant people is on the move. Off to the west we see, emerging out of the mists, the vast horizons of 21st century science. We are looking to discover a "new" botany as an adjunct to herbal studies.

Our alliance involves two disciplines that share a model of health, the East Asian herbal traditions and ecological farming. These practices have led us to question certain assumptions – mental ruts – that have inhibited botanical science since the time of Linnaeus. By questioning and then pursuing lines of independent investigation, we are poised to leapfrog over the inertia that plagues mainstream academic institutions.

The "new" botany presents an opportunity for the colleges of Acupuncture and Oriental Medicine. Even within the current curriculum, students are gaining access to this work through electives, field trips, workshops, independent projects and the Student Gardens program. This report describes perceptions and insights that keep us going.

The Questions

Last year on the twelfth of August I stood on a farm in central Quebec, staring up at the most astonishing *Phytolacca americana*, pokeweed or *shāng lù*, of my experience. Seven feet tall and at least six wide, it was fruiting, covered with pendulous clusters of shining black berries.

The herbaceous, four-year-old plant was all the more remarkable because it had emerged from the ground only six weeks before. In that locale with its harsh winters, the last frosts occur mid to late June and the first frosts in late August. Yet on that farm hundreds of species of plants complete their seasonal cycles in the sixty-day window and yield harvests of good medicine. Surrounded by those robust plants glowing with health and jewel-like color even in the light rain, I felt myself immersed in an unmistakable flow of Qi.

I was a guest of Danièle Laberge, a herbalist renowned throughout the French-speaking world and beyond. She has farmed in that location for a quarter century using biodynamic¹ methods including fermented herbal preparations made with manure from her beloved horses. Serving as village herbalist to people with a cultural tradition of plant medicine, she amplifies her efforts by educating others. Danièle is one of many people laboring outside the scope of conventional assumptions who are actually proceeding to change the world.

The ultra-pokeweed was a reminder that most of us in the modern industrial age have only the dimmest notion of the power of plants. Their capacity for adaptation, for

focusing the Qi of a particular microniche—for nourishing those two and four-legged creatures who rush around like there's no tomorrow—is literally beyond our imagination. We are just emerging from a five-hundred-year era in western culture in which nature's power has been especially maligned, and still are subject to an orthodoxy that assumes humans to be separate and superior, hence entitled to manipulate. Biomedical science is based on this assumption.

A New Direction

The history of the past few centuries of western science reveals shifts in collective awareness, as in any other human activity. Looking back to the Linnaeans, one sees the scientists who first labeled *Phytolacca americana*, in the process institutionalizing an emphasis on order and classification. However, ever since the so-called Enlightenment there has been a continuous sequence of unorthodox viewpoints, often lost in obscurity. Polarized views of nature have been expressed in philosophies with various names. Vitalism, animism, and Romanticism can be grouped at one polarity, and materialism, positivism and the Domination system at the other, the basic subject of argument being human entitlement. The 20th century dialectic has been intense and is reaching a crisis point as we face global warming and other self-inflicted threats.

Linnaeus himself was firmly in the Domination camp and saw nature as a grand machine created by God, a great chain of being with man at the top.² He revered nature, but his utilitarian attitude only supported European colonialism and, in effect, relegated botany to the role of inventory-taker for Earth, Inc. Academic botany is still devoted to systematics, the latest fashion being phylogenetics, and its tedium and abstraction make the subject too dry for most students.

Following the 19th century Romantic movement, a swing of the pendulum in botanical pedagogy was initiated here in New York. A century ago the beloved Liberty Hyde Bailey, dean at Cornell, became head of the Nature Study movement. Consciously ecological, the study of whole organisms in their natural environment set a standard for generations of students.³ By the early 1960s, however, junior high school students were no longer required to make leaf and bug collections over summer break because a “new” biology had come into fashion—molecular biology.

Only a few decades later, molecular biology has “matured” and now is being de-emphasized, leaving the door open for a new “new” biology. (Or could it be the old biology, the one that's more down to earth?) This shift has occurred quietly, for the huge amounts of public and private funding poured into narrow lines of research, culminating in that major cataloging effort known as the Human Genome Project, have yielded unexpected results.

The concept of the “gene” was constructed in the early 20th century by scientists looking for a determinant that “programs” development and drives evolution. Once the gene

became identified with the self-replicating molecule of DNA, researchers gradually realized that what goes on inside the cell is too complex and interactive to support the idea of a single determinant. The “central dogma” of molecular biology has been overthrown.⁴ In the words of MIT historian of science Evelyn Fox Keller:

“[Genes] have carried us to the edge of a new era in biology, one that holds out the promise of even more astonishing advances. But these very advances will necessitate the introduction of other concepts, other terms, and other ways of thinking about biological organization, thereby inevitably loosening the grip that genes have had on the imagination of life scientists these many decades.”⁵

The Means of Advancement

Most citizens (and several large corporations) seem not to have heard the news about the late but unmourned gene. Plant people, however, perhaps sensing the potential restoration of funding to the natural sciences now that the black hole of narrowly focused research is closing, are deep into exploration of those contrarian ideas from the Enlightenment forward.

Bringing back whole-organism focus, a group of Europeans have revived J.W. von Goethe’s reputation for science as well as art. Goethe anticipated 20th-century brain research in questioning the possibility of true objectivity. If the mind organizes light entering the eyes according to what it already knows, then unconscious assumptions and cultural imperatives can, and often do, interfere with scientific observation. These Goethean phenomenologists⁶ train their perceptive skills in various ways, for example, with exercises in projective geometry, which differs from Euclidian geometry in its focus on field or ground rather than object. Development of such skills opens the door to a new range of possibilities, for instance, the idea that some of us can “see” the Qi in the natural world and others may learn to do so.

In my own teaching I note that students seem especially attracted to learning directly from nature, and try to focus on the “ground” of herbal studies—the whole plant in context. Rather than dwelling on nomenclature, we practice pattern recognition. Rather than compiling inventories of phytochemicals, we try to understand how populations of species in different locales reflect the characteristics of their environments. In approaching plants as whole organisms without regard to status and rank, we slow down to plant-time in order to discern their behavior, expression, forms of communication and—yes—intelligence.

The impulse toward teaching botany and toward direct nature study seems to have gripped several of us in the Acupuncture and Oriental Medicine academic community, just within the past few years. It is not only a response to students’ needs for support in herbal studies. Many of us discern the outlines of an applied natural science that may

vastly improve our capacity to judge the qualities in medicinal plants and use them on behalf of patients.

The public at large has begun to accept the wisdom of consuming plants free of synthetic chemicals, thereby defining health as the absence of negatives. Meanwhile, empiricists like the biodynamic practitioners are pushing the definition forward, into the unexpectedly wide realm of positives. Why not join them, and make Acupuncture and Oriental Medicine part of the advance guard in 21st century science? The radiance of the pokeweed at Danièle's farm suggests that health and vitality may have no upper limits. We need new ways to look at plants and at nature as a whole.

¹ Biodynamics, introduced by Rudolph Steiner in the 1920s, is a worldwide modality of ecological agriculture. Practices include work with energetic forces; and homeopathic doses of herbal preparations applied to compost, soil and plants. See www.biodynamics.com.

² Worster, Donald, 1994. *Nature's Economy: A History of Ecological Ideas*, 2nd Edition (Cambridge: Cambridge University Press), pp. 34-36.

³ Comstock, Anna Botsford, 1911. *Handbook of Nature Study* (Ithaca NY: Cornell University Press)

⁴ Commoner, Barry, "Unraveling the DNA Myth: The spurious foundation of genetic engineering," Harper's Magazine Vol. 304 No. 1821, February 2002, pp. 39-47.

⁵ Keller, Evelyn Fox, 2000. *The Century of the Gene* (Cambridge MA & London UK: Harvard University Press), p. 147

⁶ See, for example: Bockenmuhl, J. and A. Suchantke, 1995. *The Metamorphosis of Plants* (Cape Town SA: Novalis Press). An American biologist allied with this movement is Craig Holdredge, at <http://www.natureinstitute.org>.