

Events

We were obliged to postpone residencies this past summer for both our 2019-2020 cohort of **Foundation Year students in Goethean science** and a new cohort of participants enrolled in the 2020-21 Foundation Year. But in the meantime, we are engaging these groups of students—from six countries and nine different states—in remote learning, mentoring, and discussion. To make this possible, we invested in equipment that enables us to create podcasts, videos, and online group meetings with high audio-visual quality. Until classes resume at the institute next summer, our cohorts of Foundation Year students will carry out observation exercises and will read and discuss chosen texts related to Goethean science.

This extension of the program means that both groups will now receive an extra year of work with Goethean science (without additional fees)—a benefit they’ve gratefully welcomed. Their eagerness for more guidance from our staff revealed a strong motivation to deepen the practice of direct observation and living thinking. We look forward to assessing how this additional year will fructify our work together next summer when we meet (hopefully!) at the Institute.

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Throughout this year we have continued our collaboration with the **New Perennials Project of the Rockefeller Family Fund**. This involves research into the characteristics of annual and perennial plants and questions concerning the long-term sustainability of agriculture.

Craig has written an essay, “Annuality and Perenniality in Wild Plants: Developing Malleable Concepts” for *The Perennial Turn: Contemporary Essays from the Field*. Edited by Bill Vitek (newperennialsublishing.org), the director of the New Perennials Project, this volume was published in October.

In local field research for this project, Judith Madey and Craig have been comparing the growth dynamics and morphology of corn, a major crop that is an annual, with the qualities of alfalfa, another major crop that is a perennial. In the process, they were dazzled by the corn stalk and flowers in all their sublime intricacy. Here Craig shares a few observations and some photos of their work.

Corn (maize) is unique among cereal plants (grains) for having separate flowers for stamens (pollen formation) and kernel formation (Figure 1). The stamen-bearing flowers in

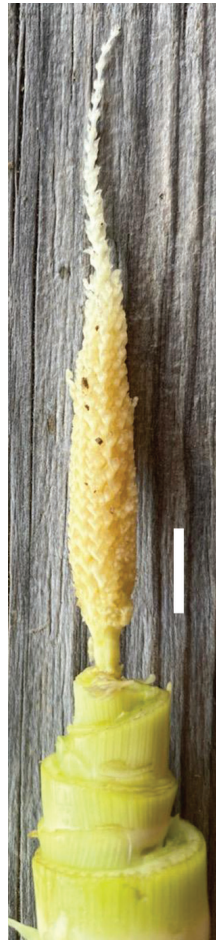


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numerous slim branches (called tassels) grow at the top of the plant (Figure 2), while the cobs with the kernels (Figure 3) develop in the axils of leaves in the middle of the plant. Early in their development these two very different organs of the plant look virtually the same (Figure 4). You could think that the germinal tassels would become a cob. This indicates an embryonic “sameness” that differentiates into polar forms over time. Sometimes a plant will reveal the kinship of these parts in the mature plant by forming part tassels, part cob where normally only the tassels or cobs would develop (Figure 5). Such anomalies — often considered malformations or monstrosities — are in fact revelatory of the underlying unity and wholeness of the plant.



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This fall, Craig is again working with **farm apprentices at Hawthorne Valley Farm** to augment their practical work in the field and barn. Engaging the aspiring farmers with guided observational exercises and group discussion, he introduces them to Goethean inquiry with the aim of developing a deeper insight into the qualities and relations of nature. A primary focus of the workshop is to reveal organisms as dynamic and integrated beings within the larger web of life; resident cows at the farm, as well as local wild and cultivated plants, allow rich opportunities for observation.

Hawthorne Valley Farm intern, Brigid James, examines parts of goldenrod.



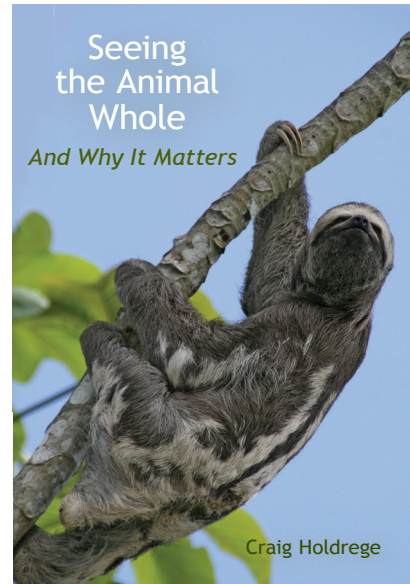
Publications and Website

- Gopi Krishna Vijaya had an article, “**Colour, Wavelength and Turbidity in the Light of Goethe’s Colour Studies,**” published in the *Journal for General Philosophy of Science* (available online at: <https://link.springer.com/article/10.1007/s10838-020-09517-3>). In this technical paper, Gopi discusses the one-sided and often arbitrary conventional approaches to “explain” color (wave length, “light rays,” and so on) in physics. Drawing on Goethe’s experiments, he also shows how light and darkness can be seen as true polarities, even according to the current understanding of physics.

- Craig Holdrege’s latest book, *Seeing the Animal-Whole, And Why It Matters* (Lindisfarne Books) will be published early in 2021. The result of Craig’s close and deliberate encounters with various animals over many years, the book portrays nine different species, illuminating each animal’s specific way of being. Readers discover many fascinating details about these creatures, but this is no mere collection of facts. As Craig writes, “I want to show how an animal’s features are interconnected and are a revelation of the animal as a whole . . . how the animal is intimately interwoven with the larger context that supports its life, a context that it also actively influences.”

The book begins with Part I, *Portraits*, comprised of five in-depth animal profiles: The Flexible Giant (the elephant); In Praise of Slowness (the sloth); Where Does an Animal End (the American bison); How Does a Mole View the World?; and The Intertwined Worlds of Zebra and Lion. In Part II, *Rethinking Development and Evolution*, Craig challenges dominant explanatory frameworks in evolutionary biology and presents a broader perspective in three different chapters: Why Does a Zebra Have Stripes?; The Giraffe’s Long Neck; and Do Frogs Come From Tadpoles? The last section of the book, Part III, *Taking Responsibility*, highlights the life of The Dairy Cow in the context of our obligation to domesticated animals. It also includes a final chapter, A Biology of Beings, in which Craig describes the philosophy and methodology of his scientific inquiry, grounded in the view that an organism is fundamentally “an integrative, creative activity and not a thing.”

- **We’ve remodeled our website!** While Covid-19 compelled us to postpone some of our work at the institute, it brought other projects to the fore — such as the long-



discussed redesign of our website. Having more than 20 years and 700 pages worth of research articles, images, and teacher resources on natureinstitute.org, the task of transferring all its content to a new platform was a painstaking feat for our in-house team. Seven months in construction, the updated website now has a clean, uncluttered design that makes for easier reading and scanning, greater mobile compatibility, clear navigation, and optimization for search engines. The content itself has not changed — only your access to it. Let us know what you think!

A portion of the Nature Institute content, including particularly Steve’s “Biology Worthy of Life” project, is remaining on the original Internet hosting site, with some redesign of its own (and perhaps more to come). You will now find it at BiologyWorthyofLife.org, or, rather less memorably (if also less unwieldy): bwo.life.

- Since the spring, Craig and Henrike have had weekly colloquiums on potential study topics with Jon McAlice and Sergio Spalter, MD, both affiliate researchers of the institute. Their four-way dialogue often prompts a fresh way of seeing phenomena or a new path of attention, as it did for Craig, who was moved to write *Viruses in the Dynamics of Life*. Published in response to the dearth of balanced reporting in the media on the nature of viruses, including Covid-19, his in-depth article contextualizes the phenomena of viruses both culturally and biologically. Emailed to our readership, the article’s even-handed portrayal of the subject prompted many appreciative comments. “Thanks so

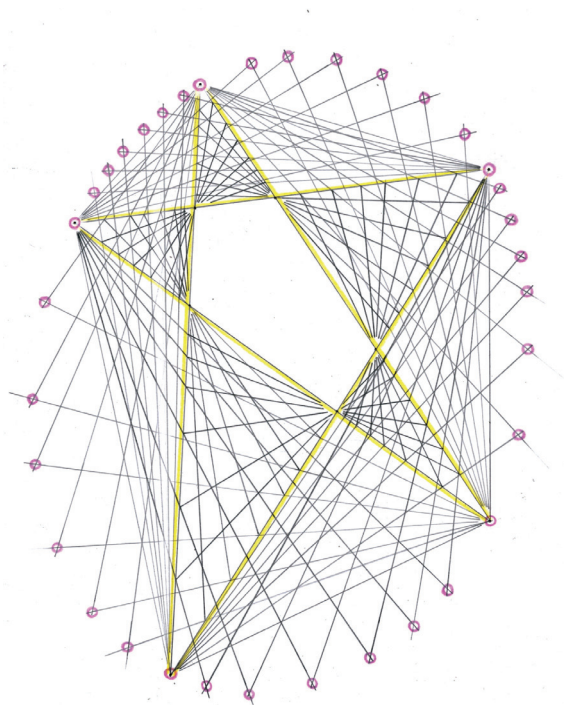
much for taking the time to explain, in clear, easily understood language,” one reader stated, “the history of the discovery of viruses and their role, as far as we understand that now.”

Likewise stimulated by the weekly meetings, Jon recently published an article on our website, *Extendedness and Permeability: Core Gestures of the Living Organism*, that depicts organismic life as transcending what we conventionally consider the boundaries of living beings. With fresh thinking, he succeeded, as one reader put it, “... in provoking so quietly such deep awarenesses and multiplicities of possible context.” Both articles can be found on our website.

- We're delighted to report that a **Chinese edition of Craig's book**, *Thinking Like A Plant*, has recently been published in China.

- And, finally, here is an update from Henrike about work on **her new book in projective geometry**:

In collaboration with The Myrin Institute, we published Part 1 of my workbook in projective geometry, To the Infinite and Back Again, in 2019. This spring, we also made it available online for free. The book is written for high school and college students, and for adults with various professional backgrounds. We have heard from people in Australia,



Taiwan, South Africa, Hungary, Brazil, and the US that they have been working with the book, sometimes in schools or in study groups.

This year I am writing Part 2, again a workbook meant for schools, self-study and for the lay-person. Topics that I cherish most, and that I have taught in Nature Institute courses over two decades, are included in this book. While designing, writing, researching, and especially while executing the illustrations for the book, I myself experience the strengthening and wholesome effects that engaged work in mathematics can have. Projective geometry not only expands my mind — allowing me to grasp in thought what before was incomprehensible — it also allows me to strengthen my sense of “I know with certainty.” I cultivate my abilities of exact imagination and of thinking in transformations.

Part 2 builds on Part 1, but has a different focus: the principle of duality (polarity) in projective geometry. In working with geometric polarity we learn that what we usually call the “exterior” or “periphery” of a figure or form is as essential and formative as what we normally call the “interior” and “point-center.” We can shift perspective and see things from their “outside” as much as from their “inside.” Everything is embedded in a context that belongs to it. Work in this field can provide practice and a means to counterbalance the overly narrow, “centered” way of viewing things that is so dominant in our times.

I hope that the book will be in print early in the new year. It will offer a wealth of practices and exercises that readers can choose from to stimulate their own thinking and inner work.