

When the lights in the room were switched off, I stood near the table, and after we had been a short while in the dark, I quietly lowered the crystal into the space between the two tubes. It was fastened on three threads so that it would not turn or swing. My hand holding the threads could not be seen and all my doings went unnoticed. What people saw and experienced was the magic of a crystal shining in the dark. If you have never seen such a demonstration, you may find it difficult to imagine the dramatic effect: suddenly a beautiful, multifaceted object appears as if from nowhere.

The crystal as it appeared lacked all visual context: there was no foreground or background. There was nothing to compare it with. Since none of the course participants had seen the crystal before, they could not know its size. Although everyone saw it distinctly, some judged it to be small and near by, others to be larger and further away, and still others to be a fairly large object far off. The measurable size and distance of the crystal remained “in the dark.”

When the participants entered the dark room, they believed it to be void of light, as it had been on the previous day. To their surprise they found that it was not so. But only when the crystal was placed in the beam of the flashlight did the light become manifest. While we see the illumined things in their colors and shades, we do not see the light itself. It is not a thing to be seen. It is the potential for things to become visible in their spatial relationships.

The air in the room between the two tubes did not suffice to make the light-filled space manifest, but air-borne dust particles or smoke would have done so. We would have seen a bright space with clear boundaries between the two tubes.

Likewise, on a hazy day among trees we see sunbeams as the sun shines through the canopy, while on a clear day we see only the sunny spots on the forest floor. As Martin

Wagenschein writes in his short, beautiful text on “Sunbeams”: “So that is how the light is ... By itself you cannot see it, only through the objects. And the objects themselves are invisible unless you see them in light.”

When you stand under the stars at night and look up at the starlit dark sky, you look into light-filled space. Every celestial body that is not self-luminous, like our moon and the earth itself, creates a shadow space behind itself (“behind” in relation to the sun). When, for instance, the earth moves into the moon’s shadow space, there is a solar eclipse. But except for those shadow spaces, cosmic space is light-filled, just like the space between our two hollow tubes. Sunlight in the night sky—like our flashlight—gives visibility to moon and planets and to all kinds of man-made objects.

We can therefore speak of two types of darkness. The first type of darkness is a space void of light. I call it cavern-darkness. Opaque matter surrounds a hollow space and shuts out all light. Here is no potential for something to become visible, no possibility for brightness or for colors to appear. Here will be lasting darkness unless a light source is brought in. The other type of darkness I call cosmic darkness. This darkness is dark not because the space is void of light, but because there is no matter to be illumined.

So just as there are two types of darkness, matter also has a double aspect: it is needed to shut out light and create a cavern-like, pitch-dark space, but it is also needed for the creation of a bright and colorful world.

The absence of light in the cavern and the absence of matter in the light-filled space both allow for darkness. The difference between the two is that only in the light-filled space is there—with the help of matter—the potential for brightness and color. Out of the interplay of light and matter our visual world arises.



The Form of Wholeness

Henri Bortoft on Multiplicity and Unity

Henri Bortoft, a preeminent student of Goethean science and wholeness in nature, died at his home in Norfolk, U.K., on December 29, 2012. He was seventy-four years old. (See also accompanying sidebar.) In May, 1999, Henri participated along with members of The Nature Institute and a number of others in a symposium sponsored by the Center for the Study of the Spiritual Foundations of Education at Teachers College, Columbia University. We present below a few selected passages from Henri’s presentation, “Goethean Science and the Wholeness of Nature.” Henri was known for his wide-ranging observations and his tracing of historical connections—all of which made for wonderfully illuminating excursions. But it means that the following brief collection of fragments can hardly give an adequate impression of his presentation. (Bracketed text in italics is the editor’s. There has been abridgment and slight paraphrasing of the passages presented here.)

Goethe [sought a method that, in his words] “did not treat of nature as divided and in pieces, but presented her as working and alive, striving out of the whole into the parts.” The first thing we notice here is the reversal of perception: not from the part to the whole, but from the whole into the parts. Goethe was someone who could see the wholeness in nature directly, and, furthermore, had specific practices that could lead to the ability to do so.



[There is a movement of thinking that] begins with the finished products, whether these be organs or organisms. It starts from a set of entities taken as given, and from there it can only go further “downstream,” which it does by abstracting from them what is “common.” We come in this way to “unity in multiplicity” by the elimination of difference. [An example is found in the way apple trees, roses, and strawberries are classified as members of the same larger family by virtue of certain traits they have in common: number of flower petals, number of stamens and pistils, and so on.] This is therefore an abstract unity. It is also a reductive unity because it reduces multiplicity to unity, diversity to identity, by finding the respect in which the different “entities” (organs, organisms) don’t differ at all but are the very same. This is the static unity of self-sameness.



It is clear from the movement of thinking by which it is formed that “unity in multiplicity” is the unity of the dead end. [It is] a consequence of beginning from things in their finished state (the given) and then going “downstream” into abstraction, instead of reversing the movement of thinking so as to catch things in their coming-into-being and thereby ending, instead of beginning, with “the given.”



Rudolf Steiner, in *Goethe’s World View*, remarks that Goethe “seeks to bring the diversity back into the unity from which it originally went forth.” Goethe’s thinking [as shown in the following remarks] goes back “upstream” and “flows” down with the coming-into-being of the phenomenon:

“It had occurred to me that in the organ of the plant which we ordinarily designate as the leaf, the true *Proteus* is hidden, who can conceal and reveal himself in all forms. Forward and backward the plant is only leaf.”

“[Nature] produces one part out of another and creates the most varied forms by the modification of one single organ.”

“It is a growing aware of the Form with which again and again nature plays, and in playing, brings forth manifold life.”

This is the dynamical thinking of the participant mode of consciousness, instead of the static thinking of the onlooker consciousness. This way of seeing turns the one and the many inside-out. Instead of many different ones that are the same, we now see one which is becoming itself in many different ways. What we have here is self-difference instead of self-sameness; each is the very same one, but differently, instead of each of the different ones being the same. We now have difference within unity, instead of a unity that excludes difference. Furthermore, it is concrete instead of abstract. So instead of “unity in multiplicity” we have “multiplicity in unity,” which is the unity of the living source.

We must be careful here not to think of “multiplicity in unity” as if it implied that unity is divided, in which case it would not be unity. If we divide a photograph of a subject, then we have two halves of the photograph with half the subject on each. But if we divide a hologram of the same subject, astonishingly we have two holograms with the whole subject on each. We have divided the hologram materially, but optically it is whole. So how many holograms are there now? Clearly there are two, but since each one is the original whole, there is in some sense one only.

We easily miss what is happening here because of our ingrained habit of thinking in terms of the logic of solid bodies. The arithmetic of wholeness is very different from the arithmetic of bodies. This is where we need to think intensively instead of extensively.

Vegetative reproduction by taking cuttings is another illustration that can help us to see the intensive “multiplicity in unity.” Organically they belong together because each is the very same plant, [although] we see “extensively many” plants that we can count bodily. Here again we have the indivisibility of the whole: it can be divided and yet remains whole.

“Multiplicity in unity” cannot be mapped onto the bodily world, and so we cannot form any sense-based mental picture of it. But we can see it, in the phenomenological sense, though it may take practice to be able to do so. We are by now familiar with the need to give up the habit of forming mental pictures based on the bodily world we encounter through the senses. Developments in mathematics in the last [nineteenth] century and physics in this [twentieth] century have brought this home to us—and no longer should we see this as a limitation on knowledge, but as the liberation from a restriction which we were not aware of as such.

[Regarding the metamorphosis of plants:] What Goethe means by “metamorphosis” is this dynamical unity of self-difference, the intensive movement that produces the intensive dimension of One that is “multiplicity in unity.” This is how the following description of the inner activity of imagination should be understood:

When I closed my eyes and lowered my head, I could imagine a flower in the center of my visual sense. Its original form never stayed for a moment; it unfolded, and from within it new flowers continuously developed with colored petals and green leaves.

The experience Goethe describes is intrinsically dynamical. It is not one plant followed by another plant, and another one, and so on to result in an extensive sequence of different plants. This is One plant being itself differently. We have to “give up thinking in terms of beings that do, and think instead in terms of doings that be” (J. G. Bennett).

What is being experienced is literally the self-manifesting of the phenomenon itself and not just a mental representation of it. This seems strange to us moderns especially when we conveniently forget about the intractable difficulties with the representational theory of knowledge. But [Hans-Georg] Gadamer reminds us that “this involvement of knowledge in being is the presupposition of all classical and medieval thought,” which understood “knowledge as

an element of being itself and not primarily as an attitude of the subject.” It is within the context of this tradition that the following remarks by Goethe are to be understood:

“Through the contemplating of an ever creating nature, we should make ourselves worthy of conscious participation in her production.”

“There is a delicate empiricism which makes itself utterly identical with the object, thereby becoming true theory. But this enhancement of our mental powers belongs to a highly evolved age.”

Returning to the single plant, the organs up the stem can be perceived in the mode of One organ metamorphosing into different modes of itself, whereupon the visible sequence of organs can then be seen as a whole movement of which these organs are simply “snapshots.” There is a reversal of perception here: the movement is not made out of the sequence of organs, but the organs are “made out of” the movement.

There is a single form, but it is not what the particular organs have in common. It is the unity that is the whole movement—the single form is dynamical and not static. A common form could not generate the movement [because it contains only the abstracted common elements and not the potential for diversity], whereas here it is the movement that generates particular forms (organs). [The late philosopher Ron] Brady concludes: “Thus the movement is not itself a product of the forms from which it is detected, but rather the unity of those forms, from which unity any form belonging to the series can be generated.”

Furthermore, we can now see why any form in the series (whether of leaves only, or all the organs up the stem) can be taken as representing all the others in the series. Each part is a manifestation of the whole (“striving out of the whole into the parts”), so each member of the series is the One organ metamorphosing into different modes of itself. Thus any organ of the series can function as a concrete symbol for all the others, and the entire series.¹

This is what Goethe meant when he said, “All is leaf.” Because of the habit of thinking in the mode of “unity in multiplicity,” this statement has usually been interpreted as implying somehow that there is a common plan, the term “leaf” here referring to a kind of generalized image formed by abstraction. But Goethe is thinking of the organs not as a set of finished products to be compared, but as a “coming-into-being” series produced by the One organ metamorphosing into different modes of itself, so that any one mode of this organ can function as a concrete symbol representing the entire series that is thus generated.

It is especially characteristic of what is living that, in Ron Brady's succinct phrase, "it is becoming other in order to remain itself." (It is interesting that Darwin also seems to have reached this point, especially in his work on barnacles, but then to have missed its significance because instead of seeing the phenomenon he wanted to explain it.)

All people can practice this way of seeing for themselves. It is, for example, possible to see a particular family of plants in its organic mode. It is an enlivening experience to observe the different members of a family such as Rosaceae (including rose, blackberry, strawberry, and apple) and begin to see them as One plant in the form of "multiplicity in unity." How different the experience of this is from that of looking for what these different plants have in common.

[In "What Does It Mean To Be a Sloth?"²] Craig Holdrege shows us how the characteristic way of being of the sloth reveals itself through the different manifestations of the sloth, so that "Every detail can begin to speak 'sloth.'" Phenomenology does not try to explain but to understand. It tries to catch sight of the intrinsic intelligibility of the phenomenon ("its own reason to be"—Goethe), instead of leaving the phenomenon in order to explain it by means of something outside itself. When we begin to see the whole animal, then every detail of the animal is seen to be consistent with the characteristic way of being which is that animal.

It is a consequence of the way that modern biology has developed that the organism as such has disappeared from view and has been replaced by genes as the fundamental units of life—what Professor Espinasse called "little causal thingummies" (quoted in Marjorie Grene, *The Knower and the Known*, p. 235). The importance of turning now, at this very time, to an organocentric biology, which is the biology of the whole organism, cannot possibly be overestimated. Even without considering the genetic factor, the tendency is to see organisms in a mechanical fashion, that is, as an aggregate instead of an organism. But when the organism is seen as no more than an aggregate of bits, then it seems quite natural, once the biotechnology becomes available, to simply change any bit we choose independently of the others. As everybody knows, this is the situation we have now reached with genetic engineering.

NOTES

1. For a more detailed examination of the sort of unity and wholeness found in the sequence of leaves on a plant, see "Can We Learn to Think Like a Plant?" available at <http://natureinstitute.org/txt/st/mqual/ch09.html>
2. You will find Craig's essay, "What Does It Mean to Be a Sloth," at <http://natureinstitute.org/nature/sloth.htm>



It was in the early 1990s that I first encountered the work of Henri Bortoft. It made a deep impression on me. Henri was able to articulate the nature of wholeness and dynamic thinking in a way that I had never encountered before. In one way he was saying what I already knew, but he was saying it in a way that brought me to greater

clarity and depth of understanding. Again and again I would inwardly rejoice in his formulations, for example:

The whole comes to presence within its parts, and we cannot encounter the whole in the same way that we encounter the parts. We should not think of the whole as if it were a thing.

Some years later I met Henri and experienced him in lectures, had conversations with him, and also sat in on a week-long course he gave at Schumacher College. What impressed me most was that Henri did not just talk about dynamic thinking, he lived it and disclosed it in his teaching. He was always present, thinking the thoughts at the moment, constantly working to find an adequate expression for the fluid nature of life as we participate in it. He rarely fell into the dualism that confounds the modern human mind. He was, to use Henri's own expression, always swimming upstream to catch the world in its becoming.

Because we all have an ability to perceive the presence (and absence!) of thinking in another human being, when you entered into Henri's flow of thought, you were truly in it and "got" it. Afterwards, in reflection, it was not necessarily the case that you could return to that life; you knew you had been there but it would take effort to get back into the stream of becoming. Here Henri's writings helped. In a sense, he said the same thing over and over again in slightly different ways and from different points of view. But when you took the time to enter the particular flow, you began to see and think dynamically. In essence, he showed that it's all about practice. How many times have I found myself and others pondering, "Now was it 'unity in multiplicity' or 'multiplicity in unity'?" You had to get back into the thought process to know, and the knowing was real as long as it was being created and lived.

Henri always emphasized that the world evolves through the fact that we participate in it. I hope that Henri's writings and his living view of the world continue to evolve and to become a stronger presence in the world through the efforts of the many minds who engage them.

Craig Holdrege