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Light in the Dark

Henrike Holdrege

I vividly remember a visit to an art museum in the early 1980s in West Berlin, Germany. In one of the great halls a room had been built, with walls, ceiling, and well-designed entrance and exit. When I entered that room I found myself in darkness. Other people were also there. I could hear them, but I hardly saw them. Suddenly a person moving about was lit up, visible in all her colors. Moving a little further, she disappeared in the dark again. It impressed me that, when nobody occupied that magic space, we could not know it was there.

This observation has stayed with me ever since. It taught me to pay attention, in nature and in my home, to related phenomena. I often marveled at how the museum installation was done. Now, after years of studying phenomenological optics, I know how the design of such a room must look. In the summer of 2012, during a course at The Nature Institute dealing with light and color, I managed to arrange a successful demonstration akin to that in the museum in Berlin thirty years ago.

During the first morning of the weeklong course we worked in a carefully prepared classroom. Each of its three windows and three glass doors had been completely blacked out. At the beginning of the second day, I asked the course participants to come again into that dark room. They took a seat. The chairs were arranged so that everyone faced a table at one end of the room. On that table they glimpsed some black and dark-blue things. But we immediately closed the door and switched off the lights, enveloping us all in black

darkness. Nothing could be seen. Nobody spoke. Suddenly a crystal glowed. Seemingly out of nowhere it hovered in the air and shone in dazzling brightness. It disappeared and then appeared again. Everyone saw it and was amazed. To some it seemed they could reach out and touch it. Others saw it a few yards away, and still others saw it so far away that it would have to have been in the yard outside the classroom.

All the materials I used for the demonstration are easy to find. However, I carefully chose a certain crystal. It was a relatively large Iceland spar with regular faces. It was colorless, translucent, but with enough irregularities to be altogether bright when illumined. The light penetrated it. In its clarity of form and its transparency such a crystal is the best object I can think of to make the light manifest in such a demonstration. Crystal and light have a kinship. When we saw it shining in the otherwise completely dark room it made a deep impression on all of us.

To prepare the demonstration I placed two cardboard tubes on a table that was covered with black poster boards. One tube was short and narrow, the other long and wide. Inside and outside, the small tube was covered with black fabric and its one end was tightly closed. Its other end was open and pointed to the opening of the second tube. That tube, covered by dark fabric, had its far end closed by layers of heavy black cloth. Between the two tubes was a space. I placed a flashlight deep inside the small tube and turned it on before everyone entered the room. Its light shone into the large tube.

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.)