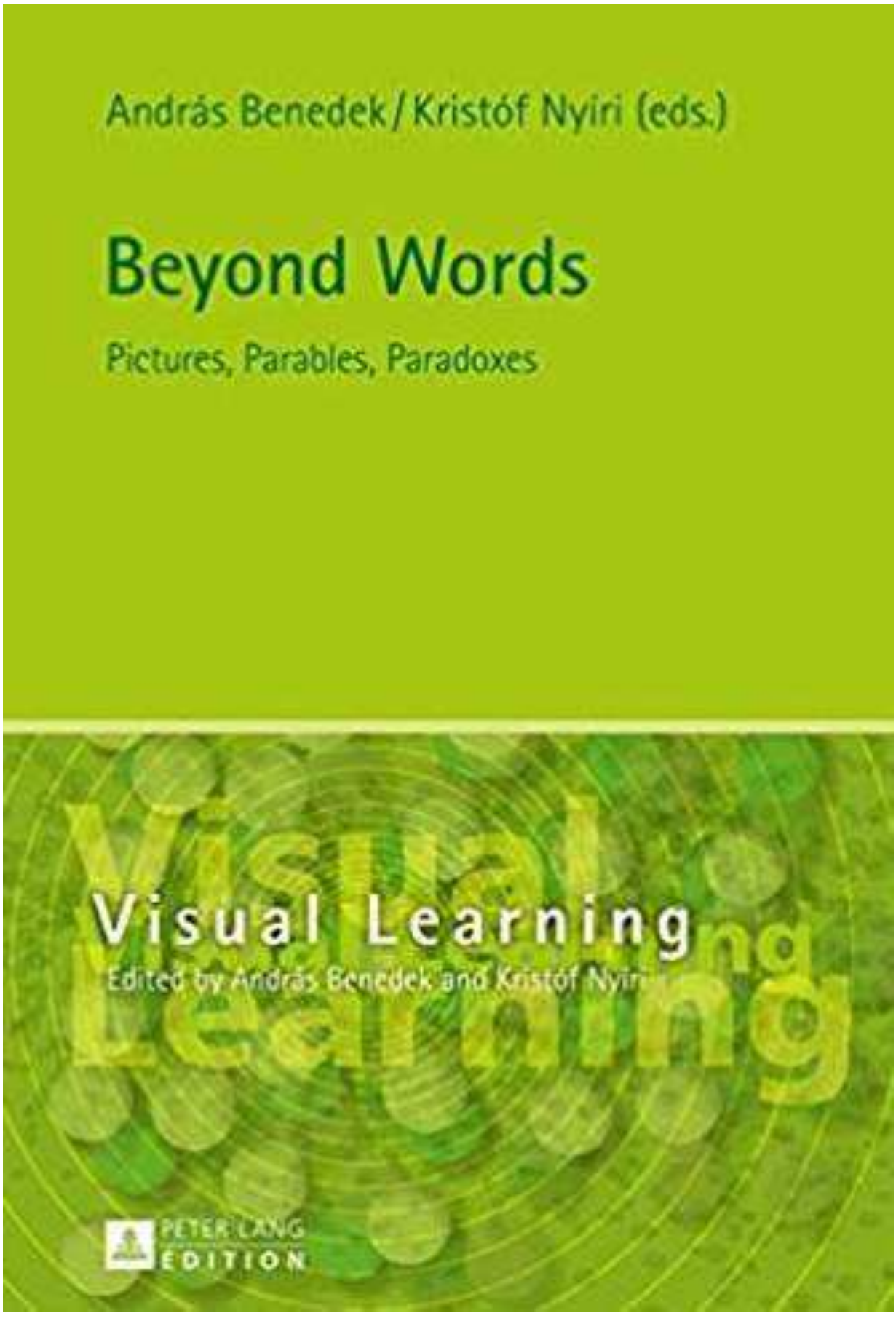
András Benedek / Kristóf Nyíri (eds.)
Beyond Words
Pictures, Parables, Paradoxes
Visual Learning
Edited by András Benedek and Kristóf Nyíri
PETER LANG
EDITION

Pictures, Experiential Learning and Phenomenology

Matthew Crippen

1. Introduction

A "retention pyramid", presented in Ronald Sousa's *How the Brain Learns*,[1] circulates widely among educational professionals. It suggests we learn most by teaching others, second through practice by doing and least through lecture, with audiovisual in the middle. Many repeat this as if gospel. However, the pyramid was first devised in the 1960s, and one suspects it is more accepted than demonstrated, a little like the popular yet false belief that we only use 10% of our brain, now propagated in the movie *Lucy*. One further worries that it is wise to be wary of anything so tightly summing up learning; and, moreover, that students should learn to listen better, this being crucial in life. Then there are also differences between retaining and learning, a distinction frequently lost in Egypt where I teach, and where, like so many other places, studying often means memorizing. In fact, one of the Arabic verbs for "I study" (*athakar*) has the same root of a verb for "I remember" (*atathakar*).

Having said this, learning obviously involves memory, and the retention pyramid has merits. After all, many of us in the educational field come to our best understanding by teaching. We also better learn tasks when walked through while doing them, as opposed to merely hearing instructions. Further, presentations with visual aids, even when only tangentially related to subject matter, engage us more than ones without, although this is not the sort of image I wish to discuss.

Assuming, then, that the retention pyramid has merit, implementing it is challenging. To begin with, having students teach one another is often impractical. At the undergraduate level it can even be disastrous to other students, though perhaps remains popular because it saves professors work. Nor are practical exercises easily found that fit the short time of class. Yet visual aids – and I would add audio ones, having recently taught a blind student about Roland Barthes' concept of mythic images – can foster a kind of practice of doing and stimulate experience-based learning.

In what follows, I cover visual approaches used to help students make difficult discoveries. I conclude by speculating on reasons for their success. One relates to the phenomenological distinction between lived or practical experience and second-order expressions; a second to the pedagogical importance of doing and teaching and specifically self-teaching – activities motivated by the visual exercises discussed.

2. Thinking about Photographs and Paintings

One exercise I have used in both teaching and research articulates differences between painting and photography. It begins with two paintings of Jesus in which he looks different, and a question: Who are these paintings of? When asked students say: "That's Jesus." I next show photographic stills of two different actors playing Jesus. Here students unhesitatingly respond that these are of two different men pretending to be Jesus.

[1] Ronald Sousa, *How the Brain Learns*, third edition, London: Sage Publishing, 2006, p. 95.

So with the paintings, they identify one individual, even though the man in the two paintings looks different. In the stills they identify three – two men, plus their role, i.e., Jesus. So why the different answers? We of course know that Jesus could not have posed for the photographs and hence that they show a person modeling as Jesus, but then why should paintings be different? After all, nobody knows what Jesus looked like, and the actors in the photographs could have just as easily modelled for painters.

Upon asking this, students immediately supplied basic answers that such luminaries as Cavell and Santayana painstakingly worked out, even though we had yet to consider them. Cavell, for example, writes:

> You can always ask, pointing to an object in a photograph – a building, say – what lies behind it, totally obscured by it. This only accidentally makes sense when asked of an object in a painting. You can always ask, of an area photographed, what lies adjacent to that area, beyond the frame. This generally makes no sense in painting. You can ask these questions of objects in photographs because they have answers in reality.[2]

With the painting, we take for granted that the building may be a product of imagination, so may have never existed. Paintings are not conceived as testifying to objects' existence, and it is through information external to the painting that we come to know the building exists, as when recognizing it as one seen in person. This is why Cavell says it only accidentally makes sense to ask what stands or once stood behind a building in a painting.

However, the question seems appropriate when directed towards a photograph, and this because of what "photography" has come to mean. The word "photograph" is used to identify a kind of object that shows things that exist or once existed. Hence when we *understand that we are encountering a photograph* as opposed, say, to an extremely realistic painting or a digitally doctored image, we take for granted that the building exists or once did; and if we encounter a doctored image, we tend to question the legitimacy of calling it a photograph – a point illustrated when the Giza pyramids were repositioned to better fit a 1982 *National Geographic* cover, and many objected that something unphotographic was misleadingly presented as photographic. The reason, then, that we unhesitatingly say "that's Jesus" in the paintings is we at least tacitly recognize they might be works of imagination. So even if models were used, the images are first of Jesus and only accidentally of models. Again, we can only know a model was used through information external to the painting, for example, comments in the artist's journal. By contrast, the model is internally related to the photograph – one almost wants to say analytically related in that we understand that things called "photographs", by definition, show things that exist or once did. So inasmuch as viewers understand they are encountering a photograph, they feel certain they are seeing a model, and thus inescapably see someone other than Jesus.

This example, in addition to introducing ideas important to photography and film, also supplies demonstrations of how pragmatic and linguistic philosophy work since the analysis focuses on the meanings of words and functions of photography and painting in the world. Yet more importantly and to the point, all the explanation of differences

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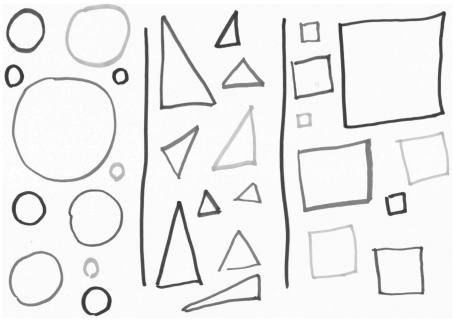
[2] Stanley Cavell, *The World Viewed: Reflections on the Ontology of Film*, Cambridge, MA: Harvard University Press, 1979, pp. 23–24.

between photography and painting – which is already distilled – was unnecessary because students nearly instantly grasped issues at stake and retained them, even if not agreeing, and the aim is not to motivate agreement but understanding.

3. Thinking about Plato

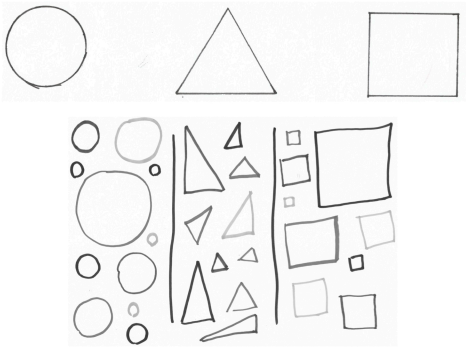
A second example conveys an admittedly impoverished but nonetheless helpful introduction to Plato's notion of "resemblance" and his arcane Idea of the Good. It begins with crudely drawn shapes, as in Figure 1.

Figure 1



No two of these circles, triangles and squares are alike. They are different sizes, colours and so on, with none perfect, meaning none are in fact circles, triangles or squares. So the question to students is: How do we recognize the circle-like, triangle-like and square-like figures as circles, triangles and squares? On a Platonic account, it is by seeing the resemblance between them and our knowledge of the true form of the shapes. This is symbolized by the more accurately rendered images placed above the roughly drawn ones in Figure 2.

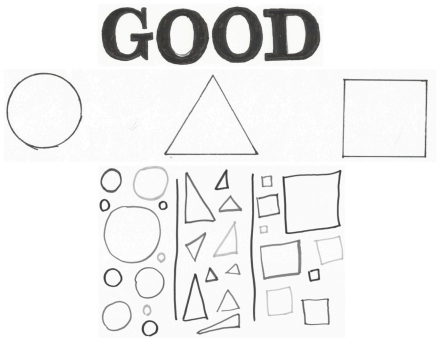
Figure 2



Now just as one might search for a common element that allows us to see the imperfect figures as circles, triangles and squares, one can ask how we recognize perfect forms of circles, triangles and squares as perfect forms since they are not the same. The question is: What do *perfect* forms have in common? Namely this: That they are ideal

exemplars, that is, perfect ones – in other words, really, really GOOD, as indicated in Figure 3 where The Good is placed above everything.

Figure 3



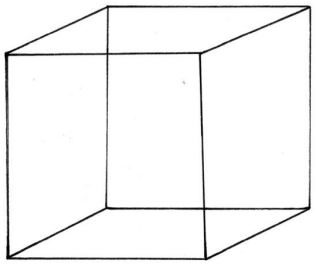
Again, while impoverished, this does introduce a clear, introductory example of what the theory of forms and resemblance implies. The sense of The Good is even more impoverished. Yet it is a helpful way in, especially given that even scholars and Plato himself do not settle clearly on the concept's meaning. Moreover, you often only learn things well – for example, the piano – by doing them badly for a time. Seen thus, this aid provides an introduction that has intuitive sense and upon which students can build, and then abandon as they cultivate a fuller understanding.

4. Thinking about Minds and Knowledge

Other issues that introductory students struggle with relate to theory of mind and knowledge. I will consider some last examples.

One is a Necker cube, shown in Figure 4, used to introduce William James' claim that selective attention shapes our experience of the world.[3]

Figure 4



Here either one of the square sections can be perceived as the front or the back depending where one focuses attention. This simple demonstration shows that attention radically shapes how things appear.

[3] For example, William James, *The Principles of Psychology,* vol. I, New York: Henry Holt and Co., 1890, Ch. 11.

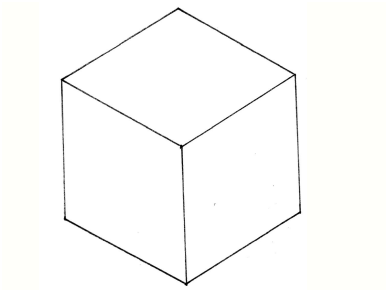
A more complicated illustration, aimed at showing that even the configuration of the solar system depends on selective attention, involves a motor-practical visual exercise. The instructions are as follows:

> [Imagine placing] your right index finger through the hole in a compact disc, and then, while keeping it stationary, move your left index finger around the exterior edge. Next keep your left finger stationary, and use your right to move the edge of the disc around it. Though the spatial relations between the fingers remain the same (in these two cases, everywhere equidistant), the left appears to circle the right in the first case, and the right the left in the second. This reversibility works not just with circles, but also ellipses or any other shape, and it works regardless of the location of the point within the bounded figure.[4]

This illustrates the Jamesian point that assertions about the universe are not justified by observation alone. Based on observational data, one could construct a model in which the Sun orbits the Earth, and other planets the Sun. This would account for the positions of the planets in the sky, phases of Venus and so on. That we prefer an account with one center of motion, a model that does not assume background stars undulate lockstep on an annual basis and that fits other accepted theories of physics is an expression of our interest in economy, elegance and consistency. According to James, such interests lead us to attend to, filter and organize observations, in this case, into a heliocentric system.

An isometric cube – shown in Figure 5 – can also effectively introduce rationalist vs. empiricists claims that we impose form on the world or it on us.

Figure 5



Here most see a cube, even though a Mercedes symbol enclosed in a hexagon would be a neutral way of registering the diagram. The question to ask students is how a rationalist or cognitive psychologist might explain this in comparison to an empiricist or someone emphasizing environmental influences.

Most quickly grasp that the former would argue we impose organization on the lines, so that they appear as a cube. With guidance, students also understand that empiricists might explain that we perceive a cube because we live in environments with many right angle corners, and thereby learn to see lines this way when they approximate

[4] Matthew Crippen, "William James on Belief: Turning Darwinism against Empiricistic Skepticism", *Transactions of the Charles S. Peirce Society* 46 (2010), p. 501.

what we have experienced. From here more nuanced ideas about rationalism and empiricism can be introduced. The point is to start with experience-based examples, then go to abstract notions about *a priori* mechanisms, associational ones and the like, whereas if you begin with the latter, you typically lose much of the class, making it more difficult and less interesting.

5. Thinking about Learning

These visual aids and others I have used have been successful, and I will speculate on reasons why. One relates to the phenomenology of Merleau-Ponty and by extension Heidegger.

Merleau-Ponty emphasizes the "world which precedes knowledge, of which knowledge always *speaks,* and in relation to which every scientific schematization is an abstract and derivative sign-language, as is geography in relation to the country-side in which we have learnt beforehand what a forest, a prairie or a river is."[5] Here Merleau-Ponty distinguishes between what he calls second-order expressions and lived experience, yet without intending to rank one above the other. His point, rather, is about order of priority. Thus, for example, in the face of Einstein's relativity, we tend to think that valid concepts of "time" originate in science, not everyday experience. As Merleau-Ponty reasons, however, every word in a scientific theory and "every equation in physics presupposes *our* pre-scientific experience of the world, and this reference to the world in which we *live* goes to make up the proposition's valid meaning."[6] Einstein twists everyday notions of temporality, but is only able to speak of "time" in the first place insofar as "time" is experienced prior to his theory and all others. "Time" initially has meaning in lived experience; this lived meaning is later developed into science, formulated into theories, adjusted, moderated and twisted. The scientific concept, therefore, is derivative. This does not mean invalid. Nor does it mean it must accord wholly with our intuitive, lived sense of "time" to be valid. It indicates, rather, that lived meanings of "time" precede scientific ones and indeed make them possible.

However, while we cannot understand anything in the absence of lived experience, university teaching historically revolves around conveying second-order knowledge. First-order or lived experience cannot be conveyed through straightforward verbal means, in any case, much like the know-how that Heidegger claims the carpenter has about hammering. Thus while you can convey the spatial layout of a painting by verbal and second-order means, stating that this object is roughly this distance from others on the canvas, appreciating its beauty means seeing it first hand; it requires lived experience. Yet while first-order understanding – which Merleau-Ponty claims is the foundation of all knowledge – is not readily communicated verbally, it is conveyed through experiential-based examples, and this is one element in common to the exercises discussed in this chapter. They provide experiential grounding for more theoretical, second-order claims – grounding necessary to grasp the theoretical import of the claims in question.

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[5] Maurice Merleau-Ponty, *Phenomenology of Perception*, transl. by Colin Smith, London: Routledge & Kegan Paul, 1962, p. ix.
[6] *Ibid*., p. 432.

A second commonality is that these examples compel students to make leaps for themselves, in effect leaving them to "do" rather than passively receive. This doing of course seems to be on a mental and not physical level – I say "seems" since Merleau-Ponty and Dewey, two of my philosophical heroes, make a compelling case that the motor-body underlies all cognitive activity, a point here neglected due to length restraints. Yet regardless of whether we characterize it as mental, the doing is nonetheless a form of practice and one very different than mere listening. Doing is a good way to learn. As importantly, it is a kind of self-teaching since students are making leaps and coming to see for themselves, and teaching, many agree, is among the best ways to learn. This combination of these factors – with others I have surely failed to consider – is what I believe accounts for the success I have had with the examples discussed.