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IMAGE, SCIENCE AND TECHNOLOGY: A POST-PHENOMENOLOGICAL APPROACH

ENTREVISTA COM DON IHDE

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Don Ihde[1] is Distinguished Professor of Philosophy at the State University of New York at Stony Brook and the Director of the Technoscience Research Group in the Philosophy Department. The study of technoscience examines cutting-edge work in the fields of the philosophies of science and technology, and science studies; it also emphasizes the roles of our material cultures and expertise. Ihde also lectures and gives seminars internationally. while developing a new perspective on technology that tries to get closer into contact with concrete technologies. Because Classical philosophy of technology tended to reify 'Technology', treating it as a monolithic force, Ihde, by contrast, shuns general pronouncements about 'Technology,' fearing to lose contact with the role concrete technologies play in our culture and in people's everyday lives. He sets himself the task of exploring this very role of technologies.

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In August 2017, in parallel to the 4S conference in Boston, I interviewed Don Ihde for the Special Issue of *Prometeica* on "Image and Knowledge." I have had many conversations with Don in the last few years, starting with my dissertation for which Don was my advisor, and later on, as we met in conferences and workshops. Don is a talented storyteller who knows how to weave many stories into one coherent theoretical framework. His talks are always fun and at the same time informative and thought-provoking. This interview is no exception.

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1. **GW: In today's culture a central role is attributed to vision and image. How far back in history can we trace this primacy? Can we identify some key milestones in this historical process?**

DI: As a post-phenomenologist, I attribute primacy to the whole body. In contrast to the 18th-century concept of five senses, I see many more. We are all synesthetic. Some of the recent examples are computer games like Nintendo, in surgery laparoscopy capabilities, and in astronomy the Mars Explorer - all requiring eye-hand coordination for their successful operation.

Recently science has become acoustic. The Cassini space probe was sent to be crashed on Saturn and on its way it transmitted the ping sounds of dust hitting the spacecraft. As Cassini came nearer to the planet, one could hear the sand hitting it not only in the rings but also all the way between the rings and the planet. Such a finding was not feasible through sight.

2. **GW: Let's discuss the role of images in the production of scientific knowledge. Did Galileo need an image of the moon to generate scientific knowledge? Of the sunspots? Can we extend these insights beyond astronomy to other scientific fields and ask if Boyle's vacuum needed an image?**

DI: I claim that science has always been techno-science, a human experience that is related to scientific instruments. However, my notion of science is not necessarily Western. Every major human culture knew, for example, about the lunar cycle, and developed technologies for these scientific observations. First, recording technologies. Signs were marked on reindeer antlers and stones aged 25,000 years back depicting the moon phasing. Astronomy, therefore, can be dated back to the Ice Age. Another example is standard technologies for viewing solstices requiring the measurement of the viewing angle each time, again dating back to the Ice Age.

Image technologies ARE science itself. My Ice Age examples demonstrate how the current master narrative of Western dominance is false. Indeed, those who have a robust infrastructure can scientifically view and explore the phenomena. However, in the Ice Age, the technologies were available to everyone. From 40,000 BP to 10,000 BP everybody could participate in astronomy.

3. **GW: Can we restore such a democratic approach to science?**

DI: In the Ice Age there were hunters and gatherers and this society dramatically changed with the domestication of animals and plantation 10,000 years ago. Such a situation led to the emergence of an agricultural society and later developed into cities. The challenge is to restore this accessibility in the cities. However, it is complicated. The agrarian society was patriarchal and produced surplus. The Industrial Revolution changed society due to the use of fossil fuel and the production of even more surplus. Everything became gigantic. Today, however, we see a shift to microscopic and nano processes. Even big data (despite its name) is based on small particles of data. This fact is a great opportunity for us to restore astronomy and other sciences as accessible to the masses.

4. **GW: In postphenomenological terms, can an image be understood as occupying the in-between of embodiment and hermeneutics? Can we think of the image as a mediator between the "I" and the "world"? In modernity, images are understood as passive. Was it always so? Should we re-conceptualize their activeness? How different is the "post-modern" activeness vs the primitive one?**

DI: The Navaho Native American in the Southwest refused to be pictured due to their animistic approach. Other Native American cultures who were less religious like the Hopi did not want to be photographed just because others were making money from their pictures.

Back to postphenomenology, embodiment and hermeneutic relations are part of the same continuum. Embodiment relations are those in which technologies extend the body scheme and senses, so the "I" and the "technology" experience the world as one whole. Hermeneutic relations are unique because they

take the capacity to read the world and interpret it so that the world and the technology are perceived as one whole. Peter-Paul Verbeek now reworks background relations towards environmental studies.

When driving a car, there are embodiment relations as well as hermeneutic relations for reading the speed gauge, for instance. Besides, sometimes people refer to their vehicles as a quasi-other thereby bringing about alterity relations. While the relationships are different from each other, there is still overlap in the experience.

Images are heavily hermeneutic. I learn a lot from a project I run now with an Anthropologist from the UK. We have opposing attitudes: he is cognitivist, and I am anti-cognitivism. I am what can be termed a "body guy." For me, science is culturally visual, and this influences our everyday beliefs. We are saturated with images. Think of emojis as a good example of condensing a lot into an image. Indeed a picture is worth a thousand words. Cartoons on TV and other media are yet another example. Kids find it easy to understand in almost every culture. Same goes for music, of course.

There are interesting relations between image and music. In *Science* magazine, I recently read that the scientists in the supercollider in CERN plan to turn data into music. They can take a run of colliding particles as data and turn it into music. In fact, all data can be either visual or acoustic.

5. **GW: This reminds me of a set of examples you use that includes Otzi the Iceman and your brain's CT scans. Images can be found in the scientific exploration but also on Otzi's body as tattoos.**

DI: Yes, Otzi was seriously ill three times during his last year of life. This fact was discovered from his nails through spectroscopy. His tattoos were on his joints, marking his pain points of arthritis. It is assumed that these are acupuncture signs. All these are in my terms “material hermeneutics” – letting things tell us without text.

6. **GW: Do you see a link or dependencies between image and imagination?**

DI: Imagination always exceeds material images. I did a lot of phenomenological experiments on this. For example, if we compare the field shape of visual perception versus auditory, we find that the visual field is "forward oriented." If I move my hand to the side, I cannot see it. Auditory is surrounding. This classification changes when we consider imagination. Try to imagine a green fly buzzing around this bottle of wine. Now imagine it flying behind you. The imaginary field is more like the auditory than the visual. However, all this is old-fashioned phenomenology. Postphenomenology would absorb classical phenomenology and add multiple perspectives. This what I used to do in my classes. I asked the students to imagine something they would like to do but never did. Almost all of them did some variations on flying, like parachuting. Usually, the class was divided into those who saw the earth coming closer to them, felt the winds, versus those who maintained a disembodied position and saw themselves as an object. Interestingly, the ratio between the two groups has changed over time. In the earlier years the majority held an embodied position, and later more students took the disembodied position. I explain this shift by the rising screen time, first TV, then computers and today cellphones.

7. **GW: My last question invokes your postphenomenological notion of multistability. Do images block multistabilities? Do they prevent imagination?**

DI: The human imagination has no constraints. We can imagine a lot of things that did not happen and even things that could not have happened. Art is a field that does this. Early modern art like Dada or the works of Marcel Duchamp was about the imagination of things that do not exist. Nobody could see it perceptually, but you can depict it in an artistic image. I like to paint because I find myself when I paint. Sometimes my painting runs counter to my intentions. When I painted the philosopher Ed Casey as part of my philosophers series, he said: "you got my soul." Also, Evan Selinger commented on that painting that the painting overcame Ed’s intense gaze and captured him correctly.

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