4.2. An "Object Oriented Science"

In the introduction and elsewhere I've long been fairly critical of mainstream science, for limiting its study of natural design to the invented equations we based on the categories of data we collected. That approach completely overlooks the dense centers of organization exhibited by individual energy using systems. Those include all the kinds of living organisms as well as living cultures, as well as any number of other kinds of complex energy using systems that develop their own organization by growth, giving them organizational independence while leaving how they work hidden from view.

It's those classes of "objects" that I see the sciences needing to find how to study. So here I'd like to briefly describe what I see as a way for mainstream science to recognize and start to explore this new territory, without abandoning the mathematical tools it uses. The sciences have mostly restricted themselves to looking at the rich multi-dimensional designs of nature through a lens of one dimensional measures, "data". Now science can potentially begin to also refer to the whole objects of nature, in their own forms, just by recognizing where they are by their locations. One can then study their uses of energy, for one thing, studied using the same "black box" methods as for machines. It won't reveal everything inside the box of course, but at least you'd have a "natural box", as the location of what is being studied, and to associate with what is learned about its inside. It's really just an incremental change in methods of boundary definition, that recognizing the boundaries of "whole systems" (Henshaw 2011)

With learning to recognize boundaries of independent organizations the potential is then clearly there to greatly expand the subjects that the sciences can define and study, that were never studied before. The individual systems then possible to study are found throughout nature on every scale, and if recognized as having boundaries could be named and studied as individually organized wholes. These objects of nature that do appear to work as wholes would then be recognizable as the units of design that life works with, expands the potential view of science further.

The expansion of subjects could also come directly from current conventional research methods in the mainstream sciences. It might be from scientists seeing a need for a better way of "taking notes", in following the hotly pursued search in complexity science for way to understand the emergence of new properties and forms. Feynman had a wonderful notation system that helped speed the advance of physics, for example (Moody 2009). It might be a notation, just to help with keeping track of shifts in organization observed while studying the uncontrolled behaviors of complex AI systems that spread to other uses, perhaps. It might also come from some taxonomy method used in forensic science, maybe later borrowing concepts from Alexander's pattern language, or not. All the methods that worked would get their validity from being means of learning from the same natural forms, and so be interconnected and interrelated by that.

Given the demonstrated potential power of a pattern language view, the emerging new views of nature in the complexity sciences and those of pattern language will eventually approach each other and meet in the middle. Each is likely to retain its individuality, and while using differing technique also learn from each other's perspective, producing a greater view than either when combined.

One can also imagine barriers to doing that arising, like institutional investment in old ways and resistance to change. Perhaps each science would insist on sticking only with its own somewhat proprietary way of describing a different world. That would have each continuing to wandering off in its own direction more or less continuing the historic pattern, of studying very bodies of information as if different "realities", that as for the "six blind men" and the elephant, seeing realities that don't connect. To upset an entrenched habit you might need some unexpected event. It might possibly be like the BIG NEWS that a very useful way of making the ancient principles of holistic design explicit had been found. Upon hearing that, perhaps some new generation might look up from its boredom and "blink", to then take off on the task of connecting the new with the old and expand our whole way scientific thinking.

There are various names for it one mighty consider. Often new forms are named by happenstance and that's OK. As a "working name" I think the simple "object oriented science" is perhaps best. It's neutral, directly descriptive and already used as an expression that way. One can probably trust that interest in the qualities of "aliveness", "living quality", "individuality" and "wholeness" found in both the most appreciated kinds of intentional and natural forms of design, will carry over. Helmut Leitner and Franz Nahrada propose the more direct "liveliness science" as "lebendigkeit science" (2014), a nice way of saying it. I called my own research archive on the subject "the physics of happening" so I have affection for that. The first question I had that became productive for my studies was: "What makes life lively?" We could call the science "liveliness" then, or perhaps just "individuality" or "nature". With one of those terms non-scientists might more quickly get the whole idea... that the name actually refers to the real subject of study.

If we want it to spread, though, it needs to stay faithful to its roots while continuing to be clarified and made more relevant to users. It also needs to become more adaptable to new domains, shareable across disciplines, maintained as a broad common language, and to expand to new areas and disciplines, like this effort to introduce a direct way to learn from naturally occurring design.