Computing, Space, Zen, The Real Numbers, And Memory

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I was reflecting on James Legge's rendition of the Tao Te Ching, chapter 11, where it says that the frame to something provides its adaptability, and the space within provides its usefulness. Lao-Tzu pointed to a room or apartment, or the hub and a wheel.

Then I thought of the space in a room defining the walls, and the walls defining the space – and reflected how they mutually support each other. This is what the Buddha meant in the Lankavatara Sutra by being and non-being defining each other (Stephen Mitchell's rendition of the Tao Te Ching says this, also), without either really existing or not (on its own, and in neither state), and this interconnection-arising is what he meant by non-differentiation (realized in mind).

I then thought of a painting put on the wall, and how that was the inter-fusion of the frame and the space within. Although this inter-fusion is also just their inter-penetrating mutual support, with or without the painting. It's just a different way, yet the same.

I then thought of the book Just Java, in which the author Peter van der Linden warns in discussing multi-dimensional arrays, that you have to look out, because just by constructing a 1,000 x 1,000 x 1,000 three dimensional array of integers, you've used up 4 GB of memory! I then thought, that's pretty interesting, because to represent a room as integer-placeholders, you'd need such an array to represent objects and their positions to 1/16th inch. What if you needed to represent 2 rooms and a doorway? And this is only for 32 bit color – not including the material! (You might represent rooms and objects as wireframes, themselves infinite – but infinite-manifest? Here one could imagine a real space, a world, an "AI" world (seeing the world as intelligent), as say physics unfolding, including the relational. Or the wireframe object represented with a surface and its material mathematically known, and with the physics equations, and chemistry equations, and so forth, to be ascertained only when noticed. Noticed by its neighbor, and the infinite-relational? And this reminds me of what I term the unfolding interconnected relational action-memes of Minsky's description of the mind, in his book The Society Of Mind: and the world is just this-and-all else, one. Add to this world the stages of consciousness from a description presented in the Lankavatara Sutra – the alaya, the alayavijnana, and the manas – and grasped and grasping (discrimination; seeing things as strictly individual, separable, and distinct), or not, and one can get a Buddhist model of the human condition! (or not))

Then it occurred to me a bit of study I'd done in Zen this past spring, and how when you take the real numbers to their infinite-place within a finite space, it's what I termed the infinite point – and this is always unfolding before us. The space between 2 tree leaves is a good example, because it's always shifting or not, depending on whether there's a breeze. So this is the way the world is: infinite memory, the real numbers, and because this is the nature of space, and the world, it's effortless.

The martial arts might be aware of this.

Then I realized that not only the world, but the space within a 1-foot cube is infinite-memory, the real numbers all taken to their infinite place, unfolding: still, or active; latent or manifest; but always present.

This takes me to a little theory/applied on the NeXTcube (from about 1990 and before). It's this: on the NeXTcube and the NeXTstation you could program (really on NeXTstep, the API/Interface/OS) you could always (in programming) insert a point into logical (or functional) space. This is modeled, I suspect, directly on the statement in Wittgenstein's Tractatus Logico Philosophicus that "Logical space is infinite, and you can always insert a point into logical space." So even though the NeXTcube was finite memory, and unlike the infinite-space in a 1-foot cube in space, it was infinitely extensible, because of the masterful use of Objective-C and the APIs and Object-Oriented-Programming, and therefore like our 1-foot cube infinite-space. (The only programming I did using Objective-C was on NeXTstep/Intel and then on Apple Mac OS X. But the language, the programming environment, and the principle applied. And you can tell from the interface.) NeXTstep was a joy to use, and modeled the real world, in its very idea and functional reality.

And the NeXTcube had a demo app on it that had a bouncing ball, realistic – a very simple version of the complete- "AI" world I describe above. (One might also consult the book Planiverse, by A.K. Dewdney, and Yendred's world.)