

Re: Analog vs Digital

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From: John Wilkins (john_SPAM_at_wilkins.id.au)

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<RobertMaas@YahooGroups.Com> wrote:

- > > *From: john_SPAM@wilkins.id.au (John Wilkins)*
- > *(Proposed alternatives to "design" (noun) or "operational methodology":)*
- > *"Anatomy"?*
- >
- > *No, that deals only with physical layout, not how the chemistry works,*
- > *and really not even fully how the device works mechanically.*

Functional anatomy, comparative anatomy and physiology all do more than this. I was just picking up on a single term to cover them all.

- >
- > > *"Life-cycle"?*
- >
- > *No, that deals with just the overview of how one form transforms into*
- > *another form etc. until a true daughter of the same form as the*
- > *original finally results. For example: egg -> larva -> pupa -> adult -> eggs.*

It is way more than that. It not only covers ontogeny, but also the ecological impact of stages in the lifecycle. For example, apart from the environmental impact on alternate generations and differential morphologies in newts, for instance, there is also the issue of what lifecycle traits work well in which environmental regime.

- >
- > *Neither term is a complete substitute for the "principals of operation"*
- > *or the "operational methodology" or "how it works" of some device. (You*
- > *probably don't even like the term "device" because you believe it*
- > *implies that somebody consciously devised it?)*

Of course not, and the fact that you cannot see the problem merely reinforces my point.

- >
- > > *But, to be consistent, I will reject "function" too, as a term that*
- > > *properly applies only to a transformation in a model that represents a*
- > > *natural system. I really must submit that piece to a journal...*
- >
- > *What is the function of a bird's wing? To push air relative to the bird*

- > *so as to propel the bird in the opposite direction. So what word would*
- > *you allow to replace "function" in that sentence?*

My point would be that you have a model in answer to a problem – the problem may be "how does a bird fly?" or it may be "what contribution to a bird's reproductive capacity do wings make?" These are abstractions. In them, you have an abstract transformation – "bird wings of size S (or some other trait) contribute to [flight/reproduction/some other "goal"] according to the function F". The "function" of a wing, is thus contextually relative to the problem and the model. If you asked different questions, you get different functions (e.g., the use of wings as insulators, as offensive weapons against other males, as mate attractors, as camouflage, etc.). *Each* of these is a function relative to the model/problem pair of the interlocutor.

But in the physical world, bird wings do whatever they do, and as a result, birds survive to reproduce or not, individually and species–relatively. the "functions" are answers to *our* questions. I do not say we should not ask questions, nor do I say we should not use functional terminology, but we *must* understand that just because something falls out in our answer, it is true only insofar as it represents a proper answer to our question. Otherwise we end up asking why noses are the shape they are, and run the danger of answering, so they hold our spectacles.

- >
- > > *This verb/noun thing seems to me peripheral. There is no "designing"*
- > > *action, there is no design.*
- >
- > *English is not a contrived language like Esperanto, where each word has*
- > *exactly one meaning, and verb/noun forms have exactly analagous*
- > *meanings one derived from the other. English is a cultural artifact,*
- > *whereby most words have several different meanings, and verb/noun forms*
- > *don't always match. For example, there are uses of the noun "design" to*
- > *simply mean a pattern, not necessary any pattern that anybody created*
- > *in any way, not related to the verb "to design". Are you denying that*
- > *English as-is is a valid language to use, claiming instead that any*
- > *noun meaning not derived from some verb meaning of the same spelling*
- > *must be abolished from the language? One place in this thread I posted*
- > *a list of noun and verb definitions for "design" from an online*
- > *dictionary. Did you see that article? If so, what is your impression of*
- > *the particular noun meaning of "design" that I felt best expresses a*
- > *pattern or operational principles of a device without any implication*
- > *that it was the result of a designing process?*

Scientific English, however, *is* a construct like Esperanto, at least when terms are coined (scientific language has its own cultural evolution – vide "deme" or "taxon" – and ordinary English is not an artifact in the sense it was designed by anyone. Language is defined in the use, and this is the end result of millions of people using it as it serves their needs, not as it was designed).

You simply cannot argue from a dictionary and expect it to constrain the way terms are used. Dictionaries are a post hoc map of usage – and they are not responsive to sub–community variations. A good many dictionaries define "evolution", for example, in ways that are totally unbiological. This is because the term has meanings outside biology. In *biology*, though, it has a [number of] technical meaning[s]. I am saying that this is also true of "design", a term which applies properly only when there is a CNS, a memory store, and the capacity to internally represent reality and make plans.

>

>> *The issue is what final causal claims we must make about biological systems – that is, are there teleological aspects?*

>

> *I think we're all in agreement that the operational methodology of a bird's wing etc. was the result of natural selection whereby genes for less effective methodologies were eliminated from the gene pool.*
> *(If you don't accept my use of "methodology", then please suggest an alternative word which has the same meaning but which you would accept.*
> *Note whatever word you specify must be agnostic in regard to whether the methodology was intelligently designed or simply fell out of NS.)*

Process or dynamic. Method is a process or dynamic agents use.

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"Men mark it when they hit, but do not mark it when they miss"

- Francis Bacon