

Most Over-Used Idea

Christopher Nemeth - And let's see...The most overused misunderstood idea.

Dick Pew -Yup, I've got one of those

Christopher Nemeth – go ahead

Dick Pew - I want to cite Miller, “The Magic Number Seven Plus or Minus Two” (laughter)... and I'd like to read, I'd like to, I won't, I'll just abstract this because we don't have a lot of time. But,

Christopher Nemeth – really, please, it's a great letter and I

Dick Pew – George, George Miller wrote a letter in response to this problem. Many years ago landscape architects used my plus or minus seven paper as a basis to pass local laws restricting the number of items on a billboard. It was funded by a large motel chain. If you run a mom and pop motel you have to put a lot of information on your sign, but if you have a franchise everybody knows you have hot and cold running water, color television, etcetera. The restriction on billboard content was driving the small motels out of business. The same argument was used by Lady Bird Johnson, by the Lady Bird Johnson Act to prohibit billboards within x feet of highways. They hired a man to travel around from town to town trying to refute the claims that more than seven items of information could cause accidents. The man's wife did not like her husband being constantly on the road so she asked him about it. He told her that the root of his trouble was some damn Harvard professor who wrote a paper about seven bits of information. She being herself a psychologist said that she did not think that that was what Professor Miller's paper said. Armed with this insight, he looked me up and told me the whole story about my career, unknown to me and the billboard industry. So shocked that I wrote a long letter to set the record straight. The letter was published in a monthly journal of the billboard industry and that was the end of it. But the point was that seven was a limit for the discrimination of uni-dimensional stimuli, pitches, loudness, brightness and also a limit for immediate recall. Neither of which has anything to do with a persons capacity to comprehend printed text. You can find a pointer to the, you can find a pointer to this discussion on cogsci Princeton; I don't think that's too important. Yes, yes you are right nothing in my paper warrants asking Moses to discard any of the Ten Commandments.

(laughter)

Peter Hancock - Okay, ideas that are most over-used and least understood. This is an area of my own efforts, um, and I thought it was a good area. My answer to this is that it's the energetic part of the world which is the idea of workload fatigue, stress, situational awareness, I can throw in some others like anxiety. The problem is these are affective states and they're affective states so that they're summarized emergent states in what the brain is doing. And they have a reality for us. You know what it is to be fatigued. You know what it is to be aware. You know what it is to be stressed, especially when you're on a Delta aircraft, okay. I understand what those are, but the substrate that underlies it is multidimensional and it's not easy it's not gonna fall apart to attack in a very simple manner because they are not, certainly not homeomorphically mapped to any neurophysiologic, simple neurophysiological map. It's arguable that they're not isomorphically mapped and it really is probable they're polymorphically mapped to various parts of a changing brain. So don't expect to win in the next couple ah, couple of

months on that. Blindside issues. I think this is one that is going to hit us. Um, it's the problem of individual differences and, um, by that I mean an area that I've tried to push forward a little bit and will try even more. It's called individuation. There are six and a half, seven billion people on this planet and that sounds quite a lot, um, when you say it quickly, but we now have machines that will perform billions of operations per second. So there is good reason to believe that in our near future and by near I mean next one or two decades, we will be able to see individuation in terms of, I will not be talking about the user, the user won't exist. It will be one person. It will be Joe, it will be Lee and yes I'm looking at you guys down there, okay, it will be those individual people that we identify and we will not be asking about nomathetic or law like properties of human beings, we'll be asking what did Carol have for breakfast this morning, alright? And we will know that information or potentially know that. I see Sabrina at the back there, what is she hoping to do this afternoon? Individuation will blindside us because our science will not be prepared for it. And the last thing is the most paradoxical principle that comes about and the most paradoxical principle I think is that, is that the thing that concerns us most, the human being is the thing we know least about. Ah, that's a fairly strange and I think obvious paradox, but it remains strange to me.

Christopher Nemeth – another overused misunderstood idea, Tom

Tom Sheridan – ah, let's see, I chose situation awareness for this one and I said um, it's overused primarily in the sense that we act like we know what it is. Ah, I can remember being on some kind of a DOD review panel once and these officer's were getting up, or they had different projects they were talking about and one would say, you know we're gonna improve situation awareness by twenty percent and somebody else was going to improve, I see heads nodding, situation, about this and that and my immediate reaction was "what the hell are you talking about?" Now it's a very important idea, don't mistake me, I think it's truly very important, but my point is that it needs much more basic, ah, research, ah to really understand, it has something to do attention, it has something to do with memory, it has to do with a lot of things it's a very sort of basic cognitive idea, ah, so I end my little comment here with maybe, maybe modern neuroscience will help solve the situational awareness problem. Newer economics, ergonomics question mark. Maybe so.

Christopher Nemeth – thank you. David Woods had this to share on the idea that's most overused and least understood. He said labels that are used as a substitute for data, thinking and understanding, he offers two of them. One is confirmation bias used as a substitute for actual analysis and understanding. The real issue is a positive test strategy, finding useful possibilities for this confirmation test. It also trivialized the role of concepts in observation. And, ah, he also uses, mentions the term design. Engineering and human factors assume that the right study or analysis will decide what to design without any design at all. Analysis as an input to design and generates constraints for design processes but is not design, ultimately design is concerned with discovering promisingness, whatever that is, he says. Any other thoughts about most overused and least understood idea? From the audience?

Grand, I think that we as ah, as psychologists, psychiatrists say I think we have come to the end of our time together today. And so (laughter)...and so I have a few items to ah, to mention, one is I am very grateful for Dr. Dick Pew, Dr. Tom Sheridan, ah Peter

Hancock who as you may recall was here earlier in the session, also Dr. Emilie Roth for being members of our panel, thank you very much
(applause)