

Welcome BrainToBeing

Post by "BrainToBeing" of December 8, 2023 at 11:09 PM

Thank you. Great questions Godfrey. I haven't gotten through the interview with Dr. Glidden yet, too busy with other things. Hopefully tomorrow. But, what I've heard so far I've liked.

As for the learning behaviors, I'll come to that in a minute.

In my view we should not be surprised that we don't specifically recognize a cow or horse at birth. I think we need to remember that the goal of "bootstrap programs" is not to give all the details of operational experience. Rather, it is to equip the system with programs that allow development of operational functional capacities. And, if we came preprogrammed with recognition of all the things we will meet in life two problems would arise: 1) we would require much greater genetic transmission which means more vulnerability to coding problems, 2) we would be biased at birth to expect certain characteristics of things when those may not be either relevant or accurate.

We need to remember that one of the characteristics that sets us apart is our adaptability. And, this depends on relevant learning, not pre-programmed biases. We don't even come programmed to differentiate "self" versus "other", but that is useful. It means we will learn our particular characteristics of "self" and also the characteristics of "other". This means we learn what is relevant to our particular journey.

Evolution has taught us (among many other things) to look at other species in order to find out relevant information about ourselves. So, here's an interesting piece: do you know that in the long migration of the monarch butterfly it takes 3-4 generations to make one circuit. What that means is that the information on the behaviors necessary to complete the circuit must be embedded in the monarch genes. It cannot be learned by experience or from parents.

Last, return to the question about the details of encoding learning behaviors and complex abstractions such as beliefs, values and expectations. We have about 86 billion brain neurons (roughly ten times the world's population of humans). And, each neuron may connect up to about 1000 other neurons. Even in this era we have no way of determining the state, activations, or "learning changes" that occur with each of those neurons. (There also may be 10 times that number of cells, currently labeled as supporting cells, which factually may play more active roles, particularly in learned integrations.) So, while we know "quite a bit" about brain function, we do not know nearly what we need to know about the specific processes of behavioral cellular integrations (into reaction patterns and thinking patterns). There is active research but if knew the details of the problems of such research you would appreciate that it is very, very difficult to do meaningfully.

So, these are a few thoughts. I will look to see if I can find recent research on precisely how complex abstractions are actually formed at the cellular level; however, I suspect the findings will be pretty limited.

Interesting stuff. Again, good questions. Sorry I don't have all the answers.