

Many of the computational models of cognitive activities that have been proposed involve quite complex mathematical operations, such as convolving an image with a Gaussian or finding a minimum of the entropy function. Most humans (and certainly all animals) never learn this kind of mathematics at all, almost no one learns it before college, and almost no one can compute the convolution of a function with a Gaussian in their head. What sense does it make to say that the “vision system” is doing this kind of mathematics, whereas the actual person has no idea how to do it?

There are two things going on here (possibly more). Human hardware is capable of doing such complex mathematical operations (assuming the computational models hold true) and this doesn't necessarily require humans to actively learn such operations. How does a child walk without knowing the laws of motion? The human cognition happens at a high level and this is void of all the “implementation details” of the brain. It is an advantage in fact to be ignorant of how such operations are carried out as this allows us to operate at a higher levels of abstraction usually similar to that of our end goals.

One might say awareness/consciousness operates at a high level and simply not at the level of primitive operations such as convolutions.