Does the brain have to learn how to be sick – or well?

The power of the nervous system lies in its ability to learn, even through adulthood. Networks of neurons discover new relationships through the timing of electrochemical impulses called spikes, which neurons use to communicate with one another. This temporal pattern strengthens or weakens connections between cells, constituting the physical substrate of a memory. Most of the time, the upshot is beneficial. The ability to associate causes with effects—encroaching shadows with dive-bombing falcons, cacti with hidden water sources—gives organisms a leg up on predators and competitors.

But sometimes neurons are too good at their jobs. The brain, with its extraordinary computational prowess, can learn language and logic. It can also learn how to be sick.

People who experience a single random seizure, for instance, are 50 times more likely to become epileptic than someone who has never had one.

Other afflictions, too, can be learned in this way. Obsessive-compulsive disorder, post-traumatic stress disorder (PTSD), addictions, and even certain digestive maladies seem to be characterized by neuronal couplings that have become overly strengthened, like a well-trodden path. This commonality gives doctors a reason to be optimistic: If disease can be learned, couldn't it just as well be unlearned?

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: How to Unlearn a Disease