



PA 2 – How the Brain Perceives the World

Did you know that your brain and central nervous system are constantly changing? It's quite amazing – from one day to the next your brain is not the same. This is what scientists call neural plasticity.^{1,2}

So, what's the cause of this change? Well to start with, your brain receives a constant supply of messages about your body and the external environment from the sensory organs – that's your eyes, ears, nose, tongue, skin, and so on.^{1,3} With this information, your brain maintains a 3D map of your body, and keeps a tabs of what's going on outside of your body. Your brain needs to interpret all of this data from your senses. It translates the information it receives based on what it has learned from your past experiences, as well as its expectations for the future, its preferences, and more.^{1,2,4,5} You could call this the brain's bias. There is basically a lot of background processing that happens under the radar. So how you – or your brain – sees a situation may not be entirely accurate. That means your experience isn't 100% based on reality, but is instead a perception of reality.

Let's look at an example of how the brain fills in the blanks. Look at this picture and consider which square is darker, square A or square B? Which is darker now? It is incredible isn't it! Your brain does not just 'see' what the eyes tell it. It interprets what the eyes tell it based on other information it has already stored up. In this case you see square A as darker than square B, because square B is in the shadow of the green cylinder, while square A is outside the shadow. Based on your brain's past experience it will 'decide' for you that if a square in a shadow reflects the same amount of light as a square outside the shadow, then it must be a lighter shade of grey.

So, what happens if your brain's map of the body is inaccurate, or if it is interpreting information based on faulty perceptions? It may mean that your brain responds to environmental cues ineffectively.^{3,6-10} But how would you know if your brain's map of the body or its knowledge of the environment was inaccurate? You may find that you become a bit clumsy. That you stub your toe often, or catch your elbow on door frames. You may find that your golf swing is out. Or that your concentration is just not what it used to be. Or you may be over-reacting emotionally to a situation.

In the next video, you'll find out how chiropractic care can help reset the function of the brain and the central nervous system, improving the accuracy of your brain's map of the body and the environment, so that you can operate at your best.

References

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