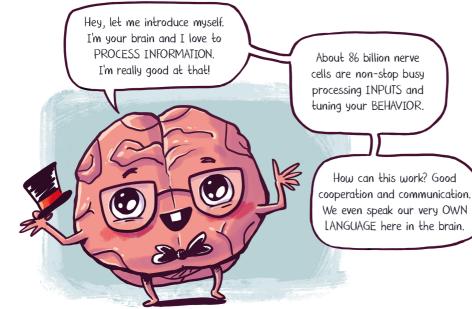
8 2021 Véro Mischitz (story/script) & Anna Fuchs (implementation) based on "Modulation of large-scale cortical coupling by transcranial alternating current stimulation" by Bettina C. Schwab et al, 2019, Brain Stimulation, University Medical Center Hamburg-Eppendorf, CC-BY-ND 4.0. Brain Stimulation, University Medical Center Hamburg-Eppendorf, CC-BY-ND 4.0.



Nerve cells communicate with each other using currents of charged particles. Current Current on. Current You can think of it like Morse code.

If many nerve cells are working simultaneously, we can visualize the oscillations - based on the sequence of all Morse code signals and pauses - with an EEG*.

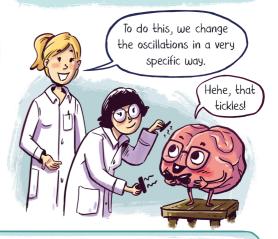


exchange information and work together.

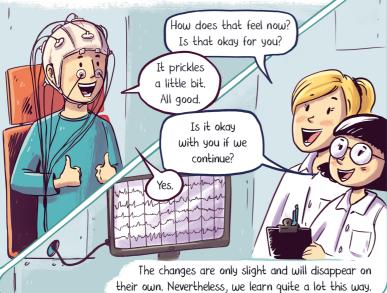
Nerve cells that oscillate "in unison" can

Even over long distances.

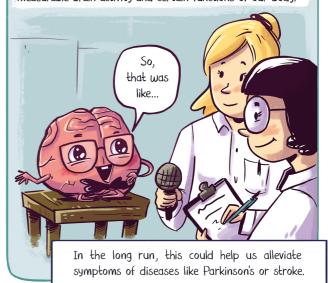
In order to PRECISELY UNDERSTAND the language of the brain, we investigate whether there really is a RELATION between certain oscillations and a measured function of the brain.



What we do is called tACS**. We stimulate areas in the brain with fine. precisely controllable alternating currents. Then we observe whether this procedure changes the measurable activity in different areas.



With our method, we can actually "talk to" the brain in a targeted way. So, hopefully, in the future we will be able to better understand the connections between external stimuli, measurable brain activity and certain functions of our body.



Electroencephalography (EEG) is a method of measuring and recording the activity of nerve cells directly on the scalp

^{**} tACS stands for transcranial alternating current stimulation. Here the brain is stimulated from the outside via the scalp.