

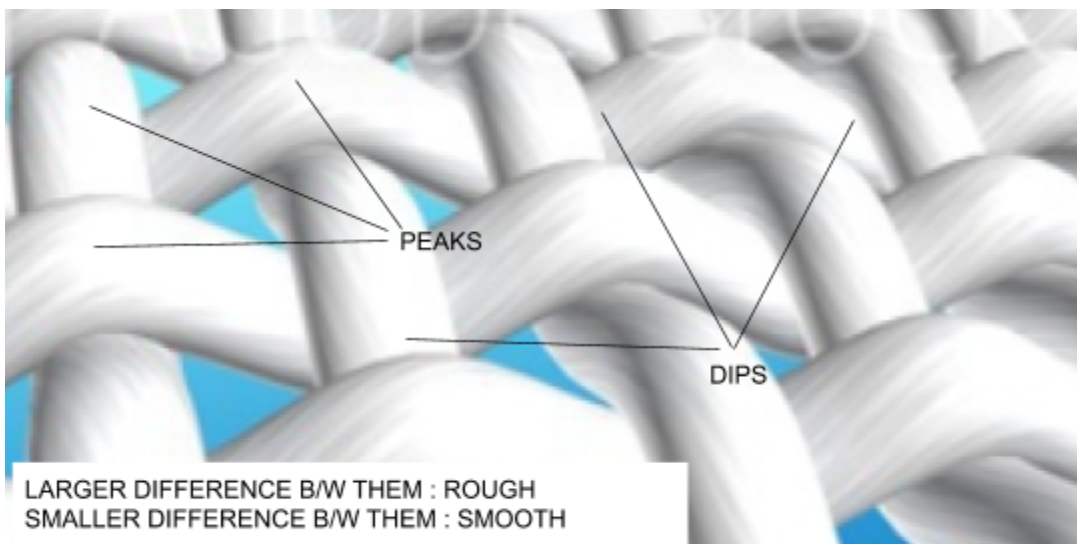
Class Assignment 2 : Intro to brain and neuroscience

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Question A

a) How do we classify fabrics as rough, smooth...?

- Criteria to differentiate:
 - Variation in pressures at different points of our fingers/palm



- uniformity/non-uniformity corresponding to peaks and dips of the fabric

b) Steps involved:

1. Receptors on fingertips detect pressure change and their nature
2. These signals are forwarded to the specific section of the spinal cord
 - a. According to a dermatome
3. Then to the brain stem → thalamus → primary somatosensory cortex where the information is processed(we classify it as rough/smooth).

Question B

What factors determine recognition of a variety of fabrics by feeling with the hand ?

- The ability to detect different pressures at a very small distance on our fingers
 - I.e. The density of neuronal mappings
 - Fortunately: on a Penfield map (for the somatosensory cortex) :
 - The hands have a largely dedicated region → greater neuron density
 - allows to detect and differentiate differences over very small distances.
- The behaviour of the fabric itself when you apply pressure (compressibility, etc...)
- The behaviour of the fabric when you stretch it : you can feel the friction (by the tensile forces of the fabric)