



GdR CNRS TACT n° 2033: le Toucher, Analyse,
Connaissance, simulaTion



La sensibilité tactile

JM Aimonetti

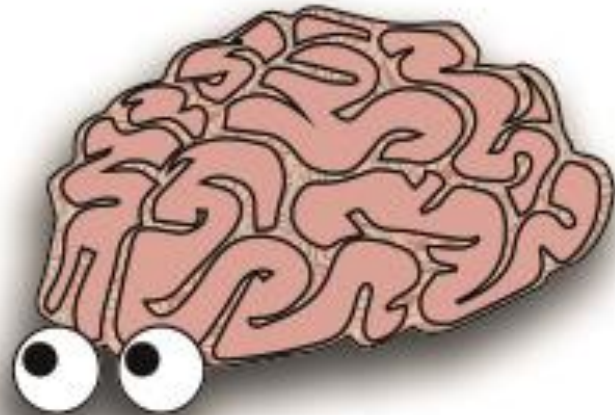
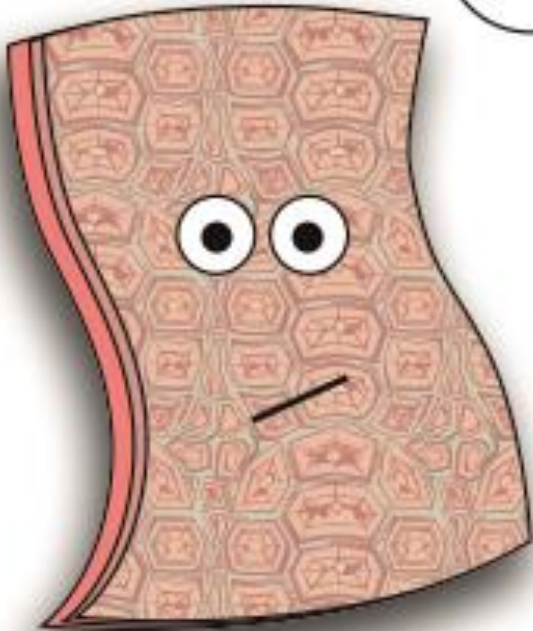
Fédération **3C**
COMPORTEMENT • CERVEAU • COGNITION



(Aix*Marseille
université



Skin, meet Brain. I understand the two of you
have a lot in common.





Druck v. J. Haller.

Nach einer Photographie von J. J. Haller.

E. H. Weber.

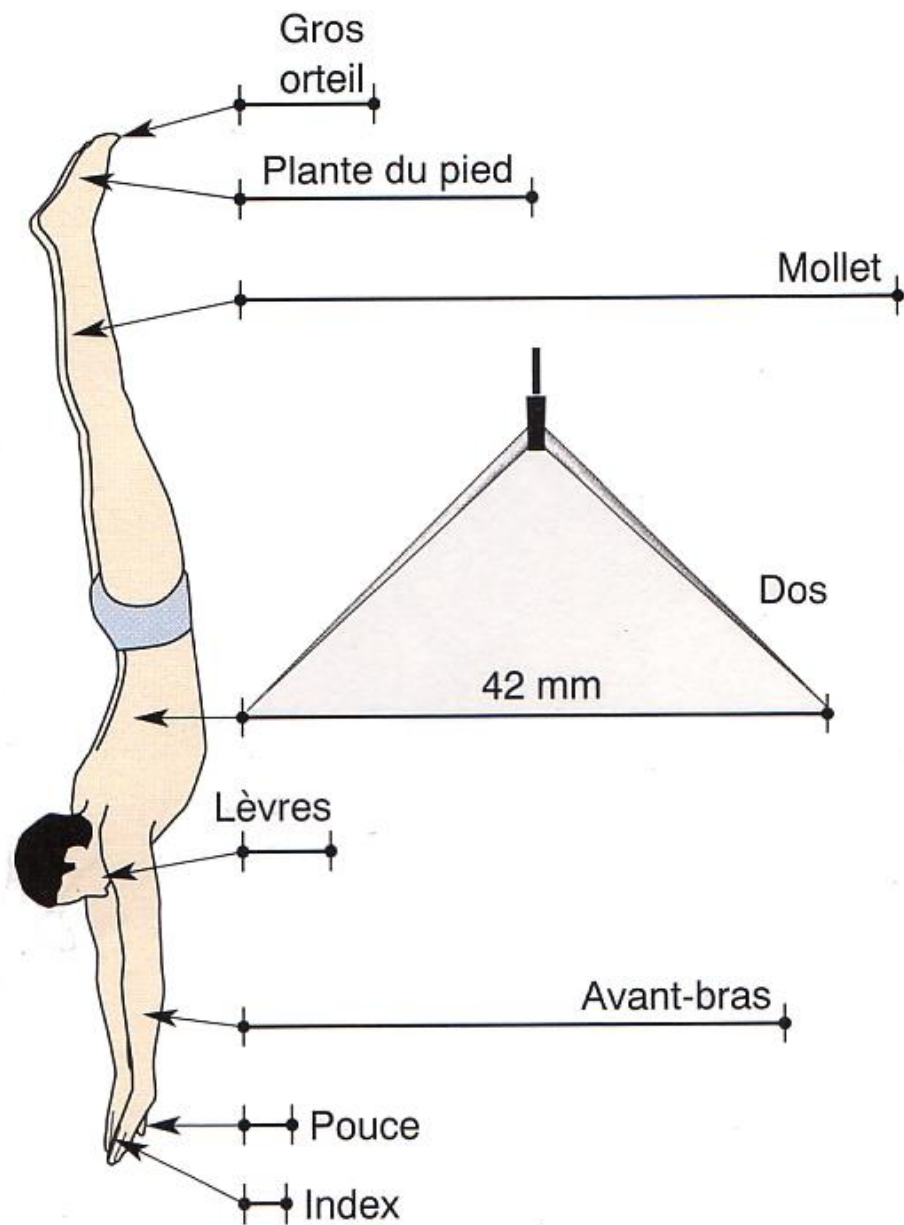
Eigenthum u. Verlag v. George Andre Lenoir

Revisor der Fabriken und Handlung deutscher physikalischer & pharmaceutischer Apparate v. G. A. Lenoir in Wien.

rie ausgezeichneter Naturforscher.

Mit Vorbehalt wider Alle Rechte.



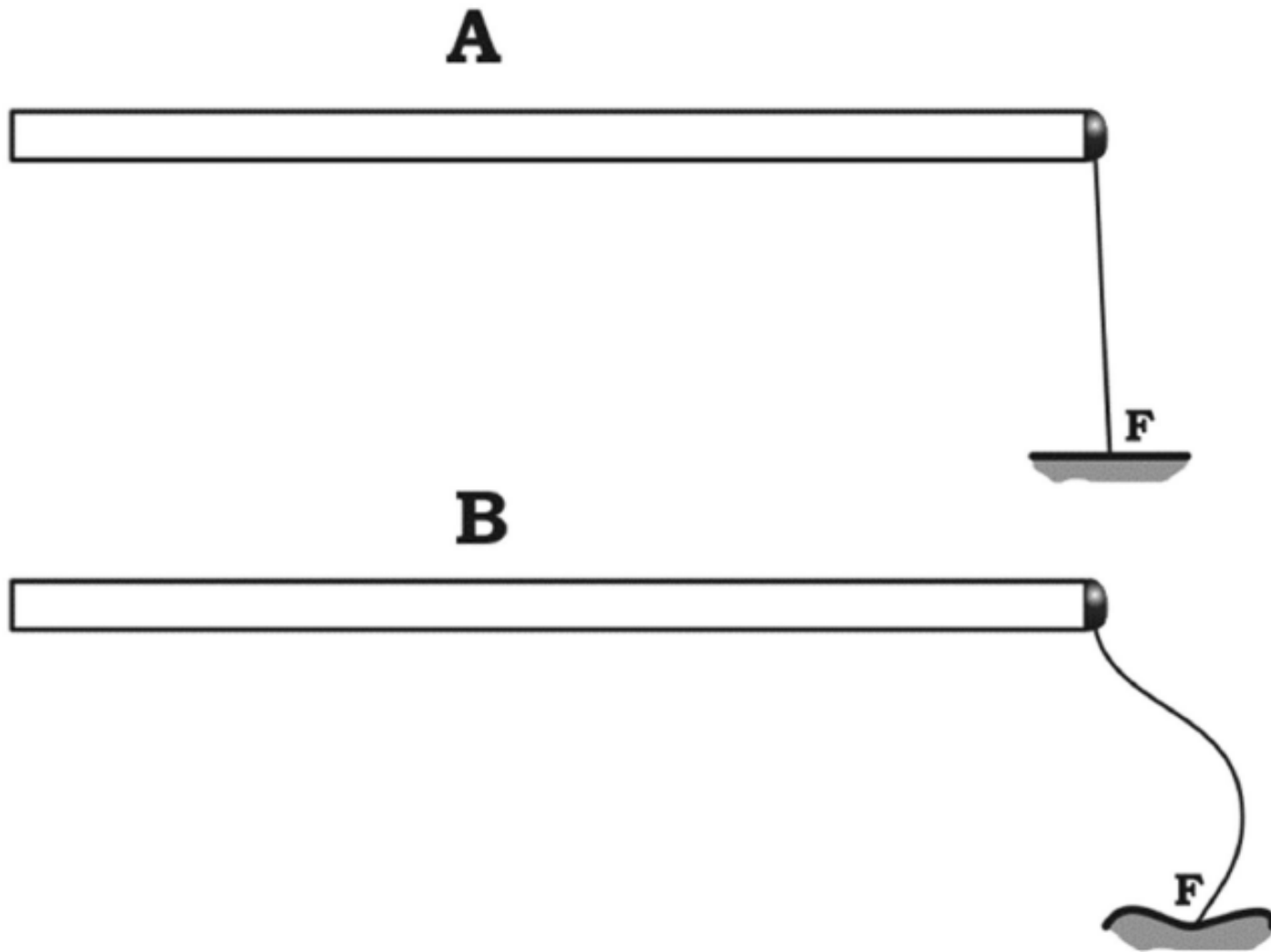


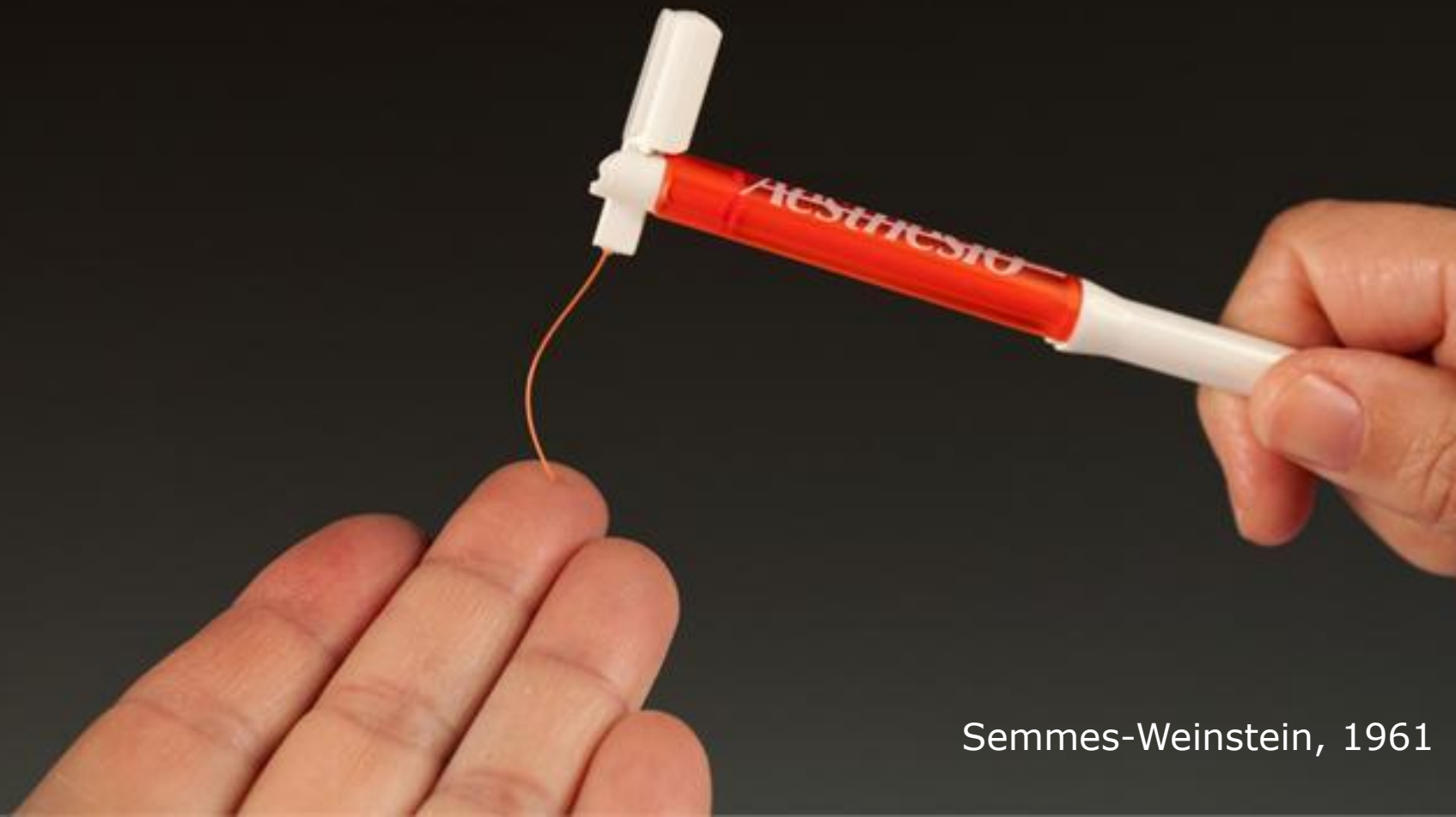
adapté de Weinstein, 1968

MAX V. FREY

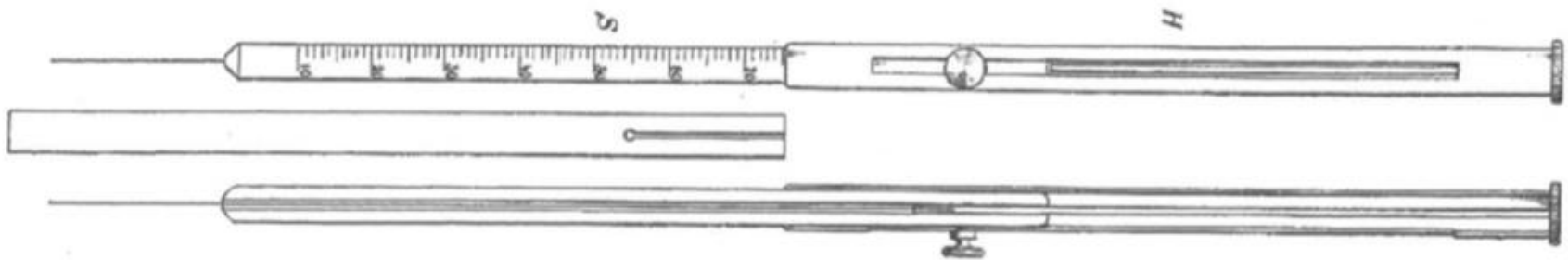


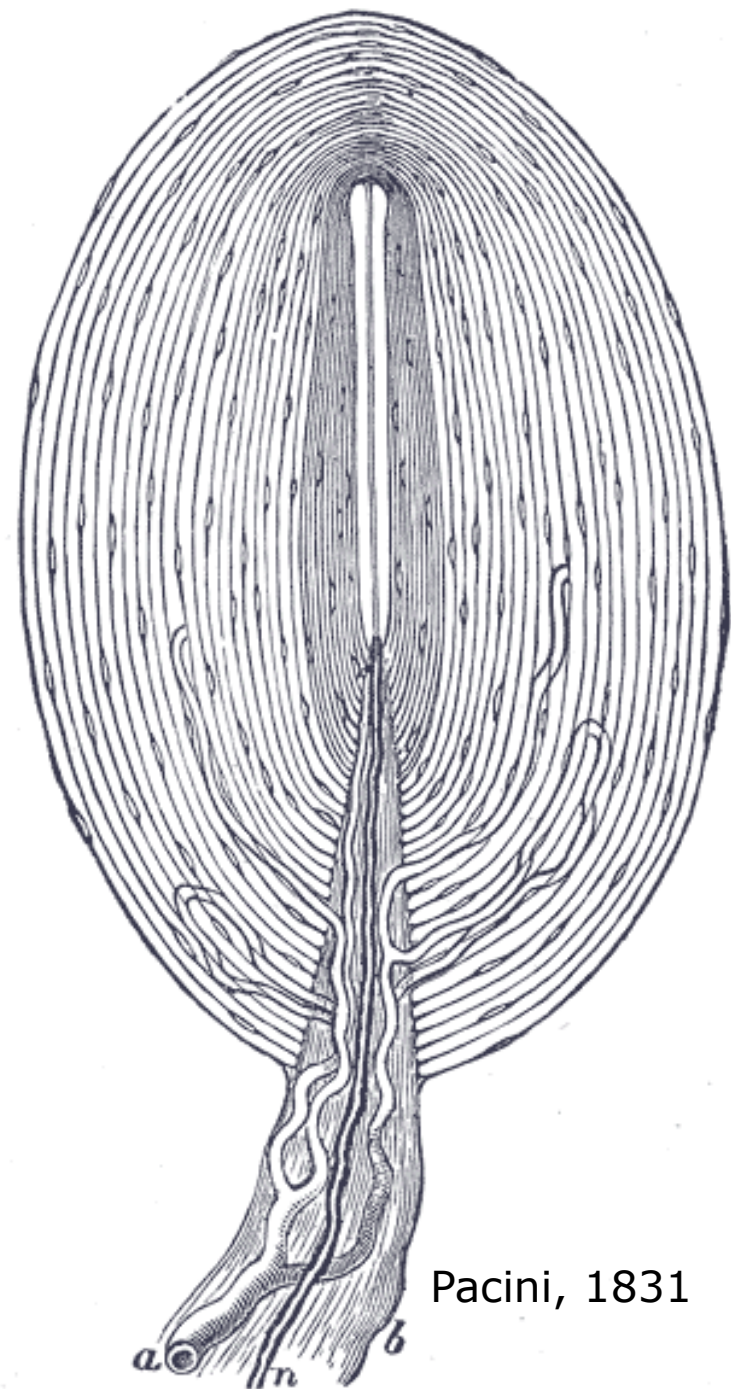
M. von Frey



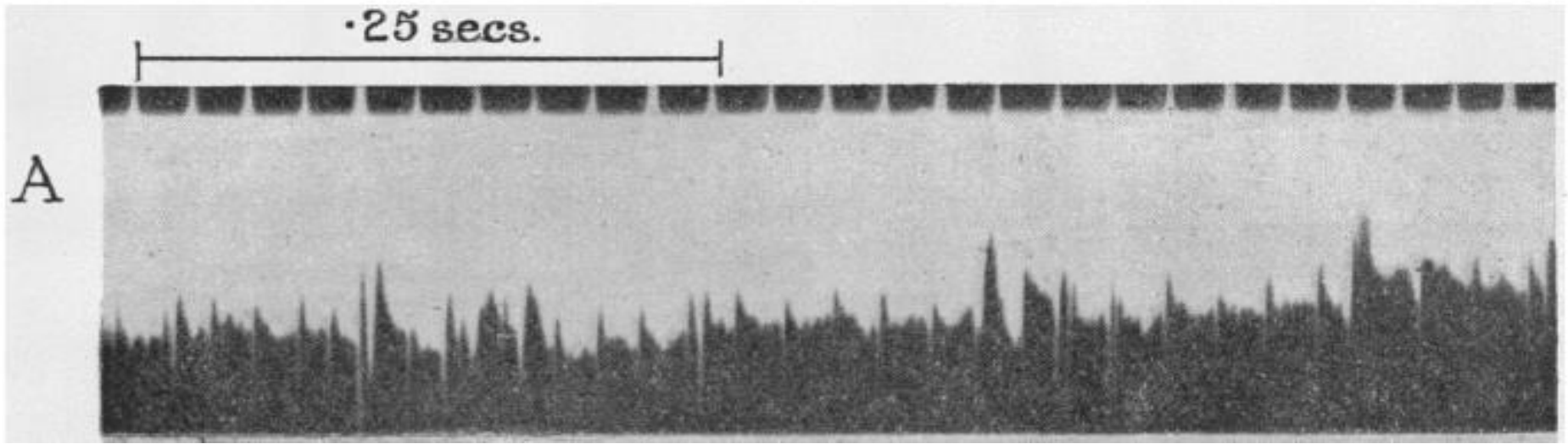


Semmes-Weinstein, 1961





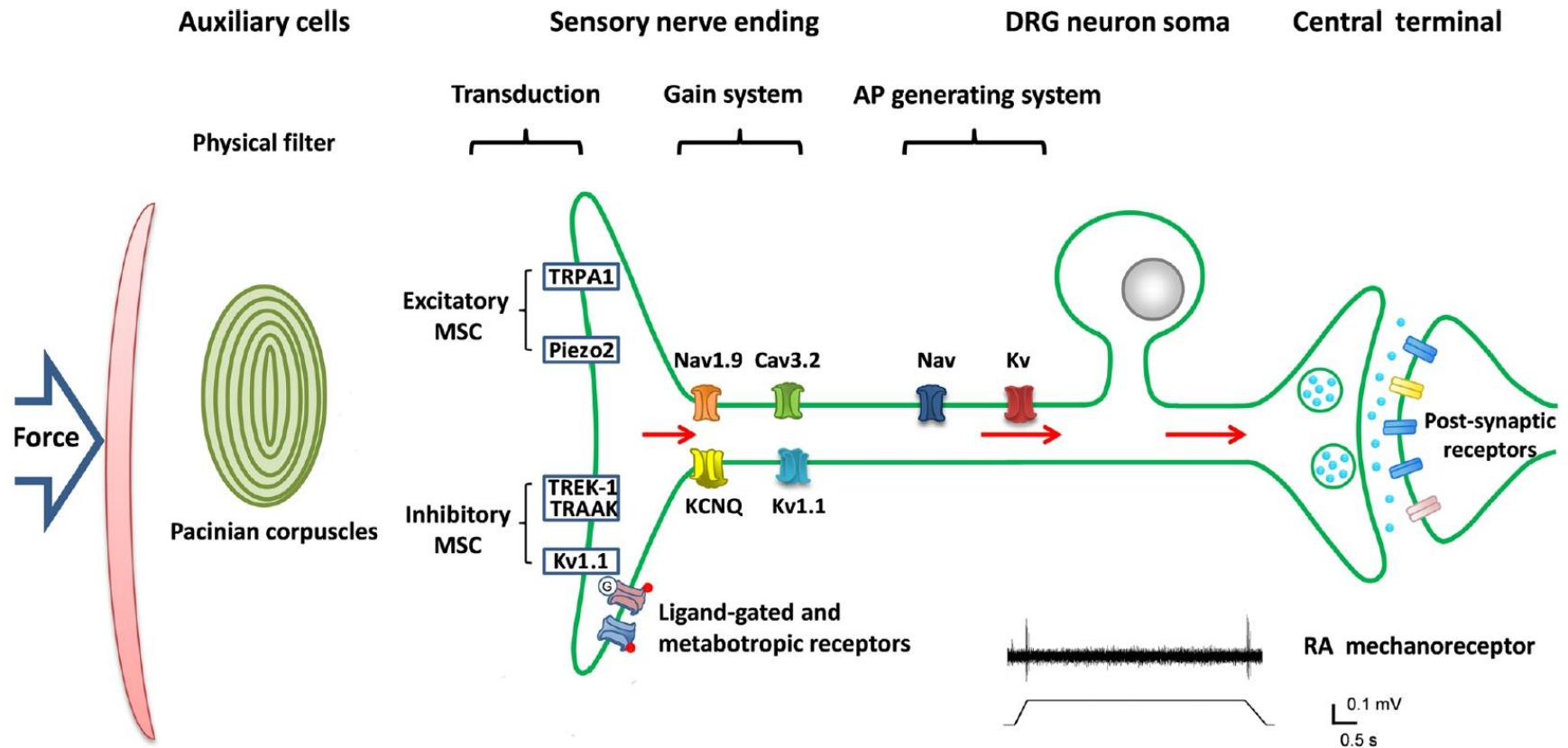
Pacini, 1831



Adrian & Humrath, 1929



Quelle transduction?



GALERIE HERVORRAGENDER ÄRZTE UND NATURFORSCHER.

GEORG MEISSNER.



Professor Meissner

*Beilage zur Münchener medizinischen Wochenschrift, Blatt 264, 1903.
Verlag von I. F. LEHMANN in München.*

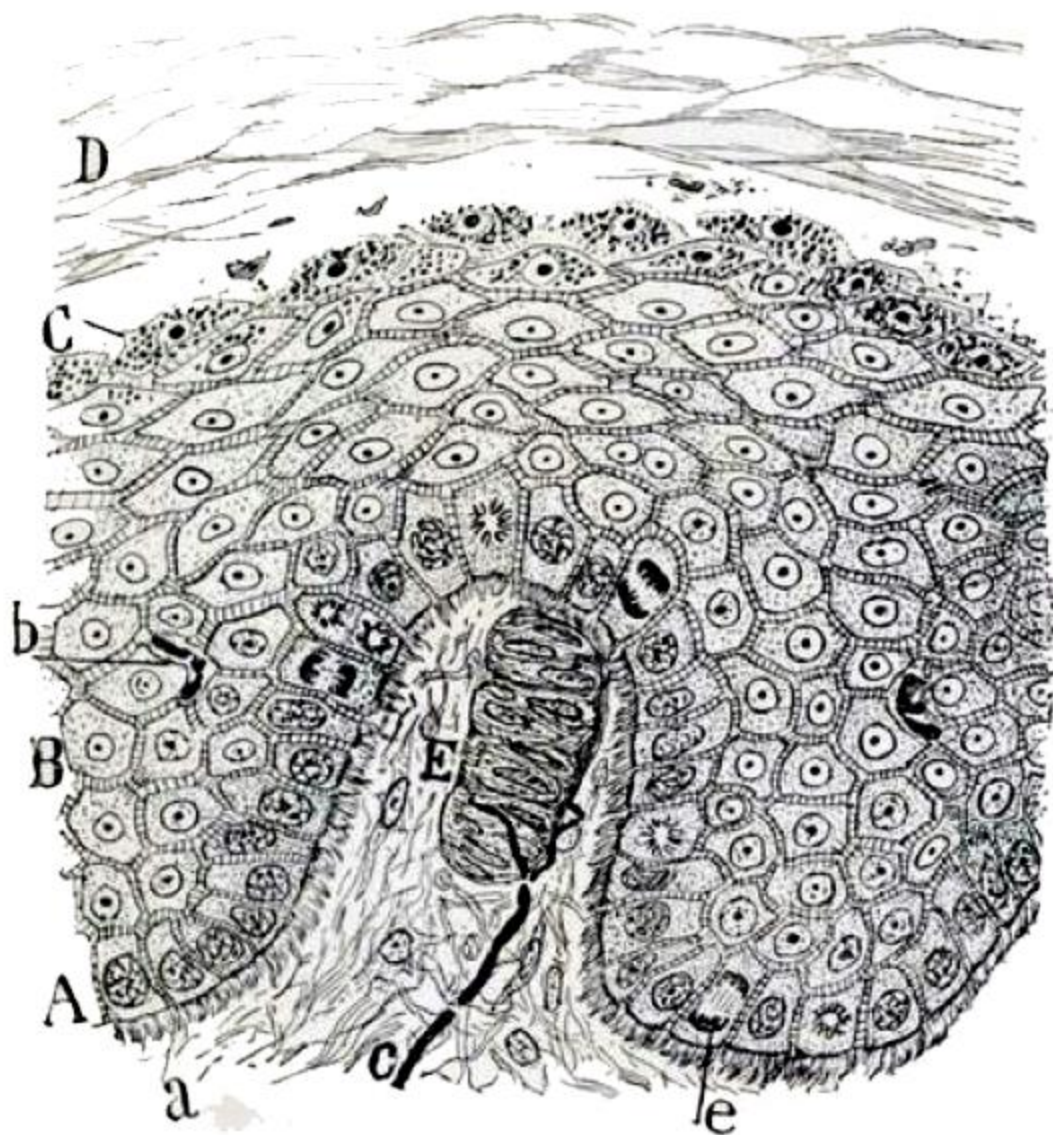
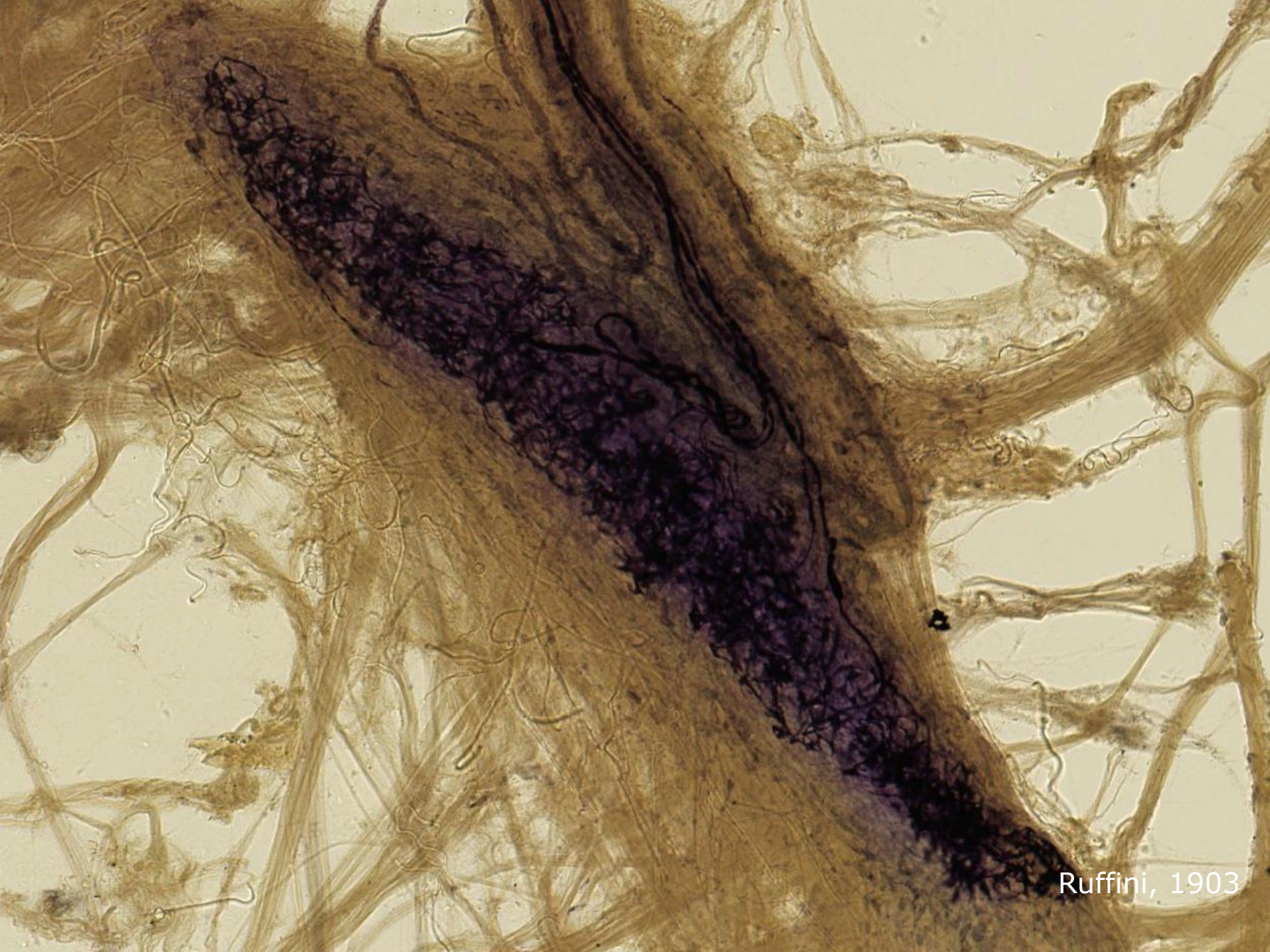


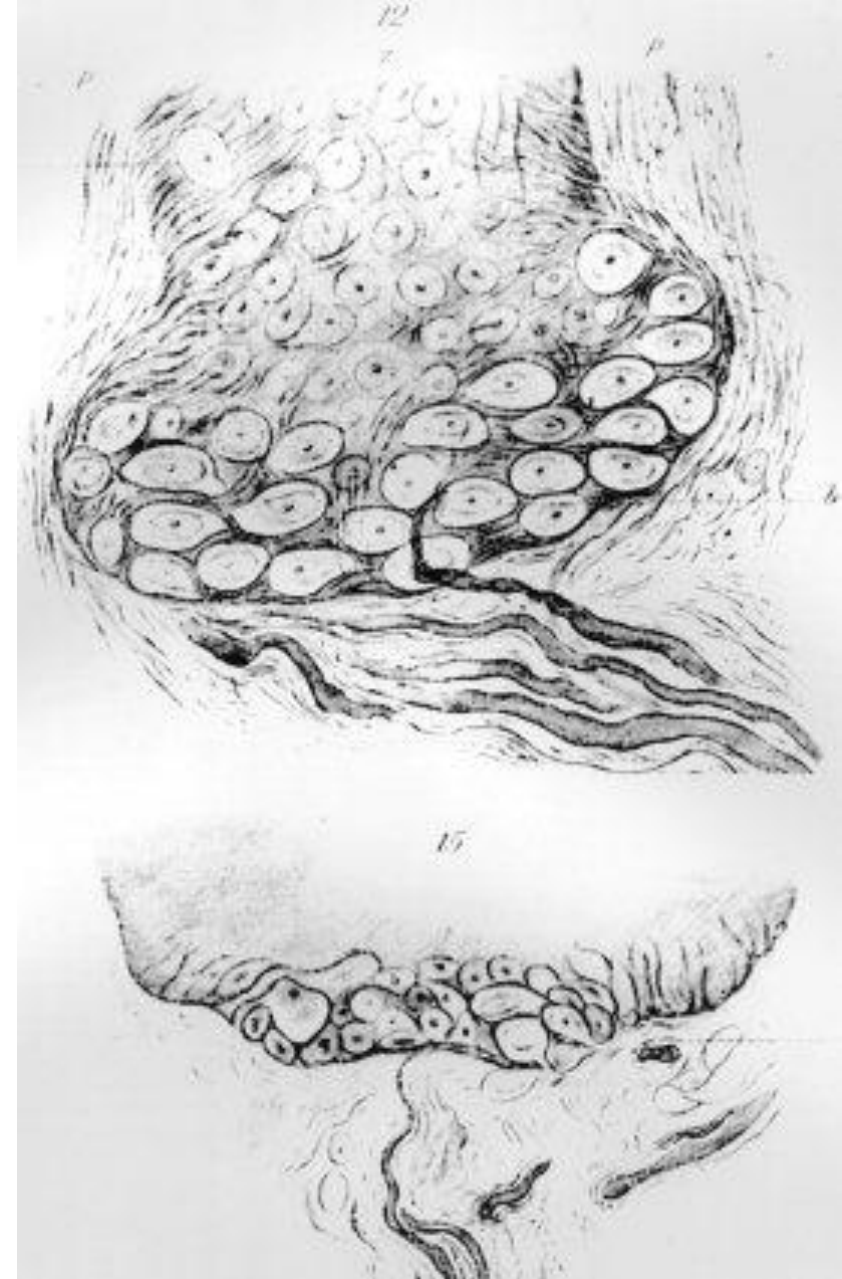
FIG. 192. — Coupe de la peau d'un doigt humain. Coloration par l'acide osmique et l'hématoxyline.

E, corpuscule de Meissner; — c, tube nerveux afférent.





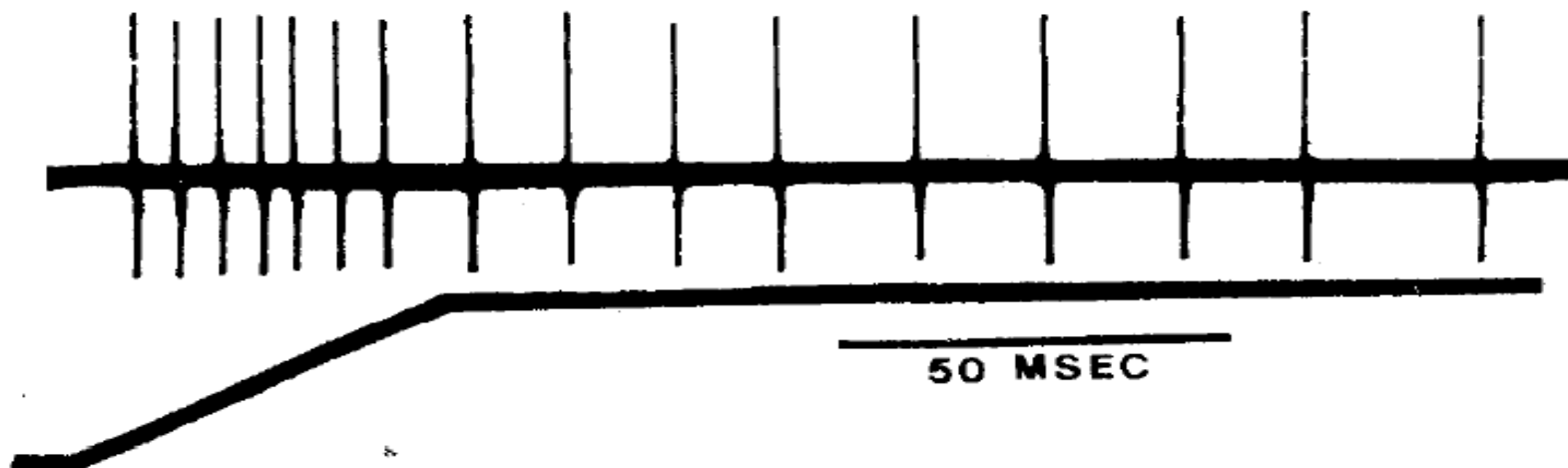
Ruffini, 1903



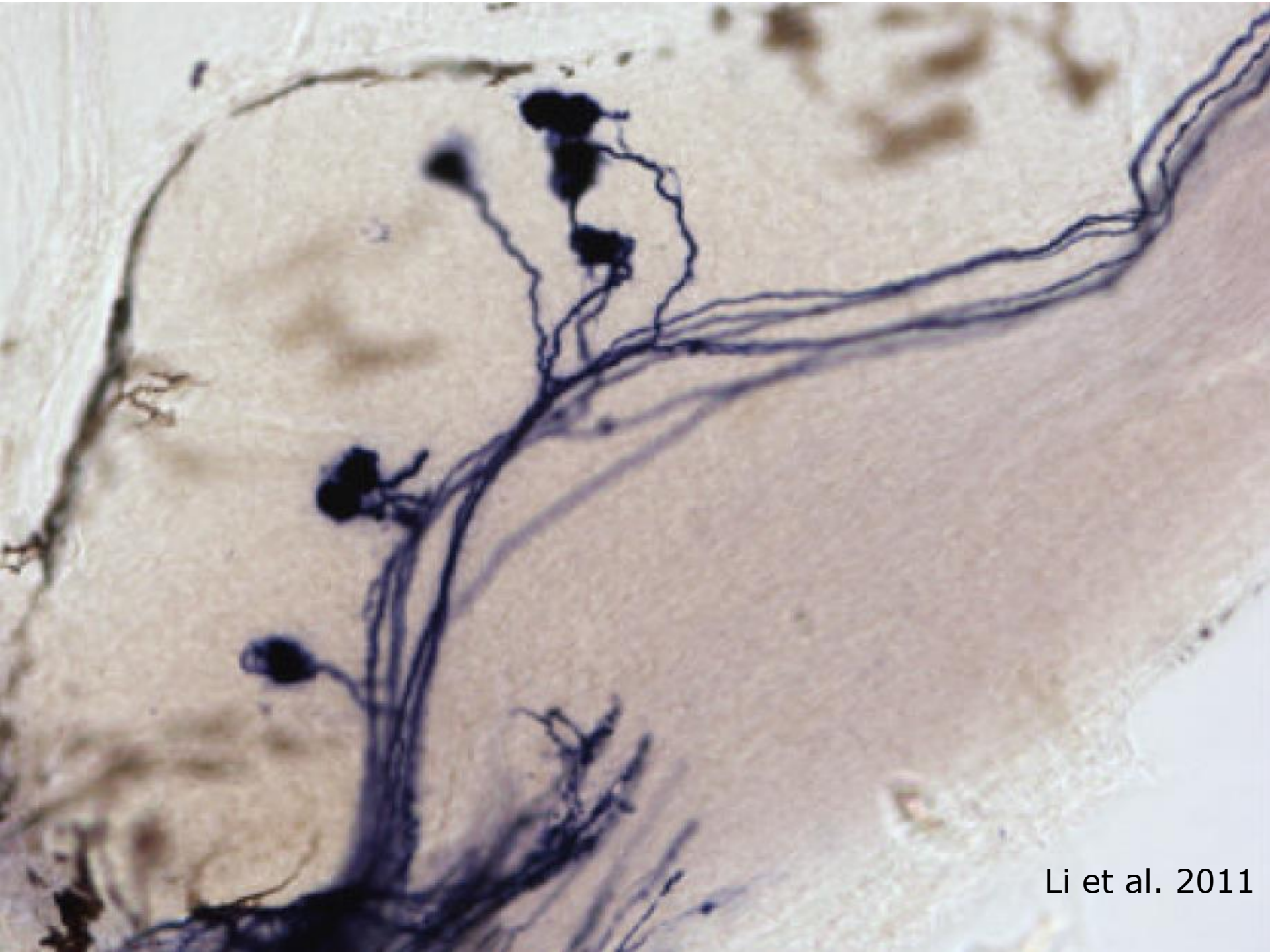
Merkel, 1875



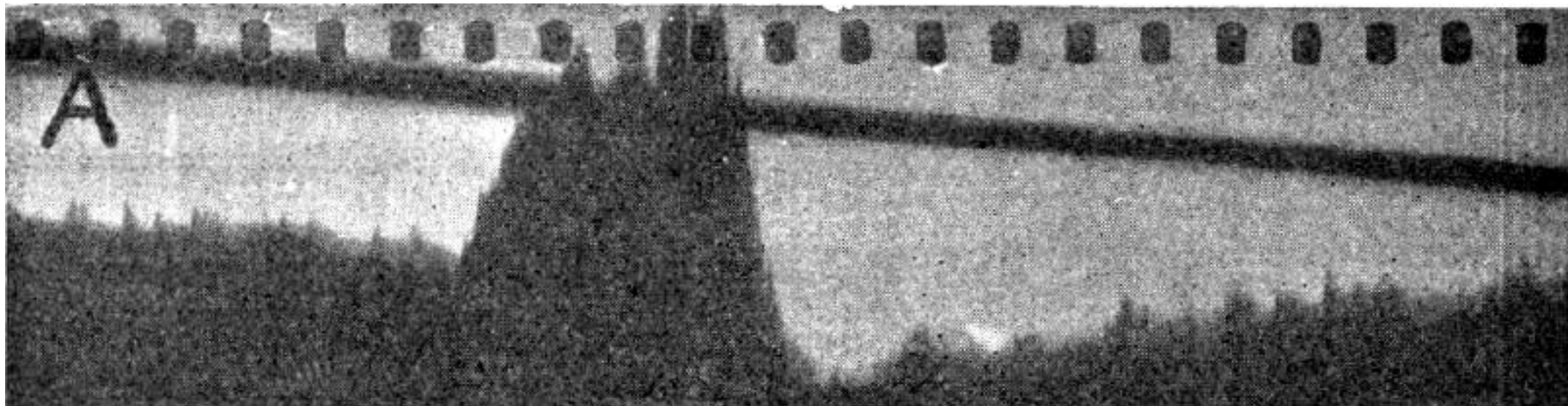
Adrian & Zotterman, 1926



Pubols et al. 1983



Li et al. 2011

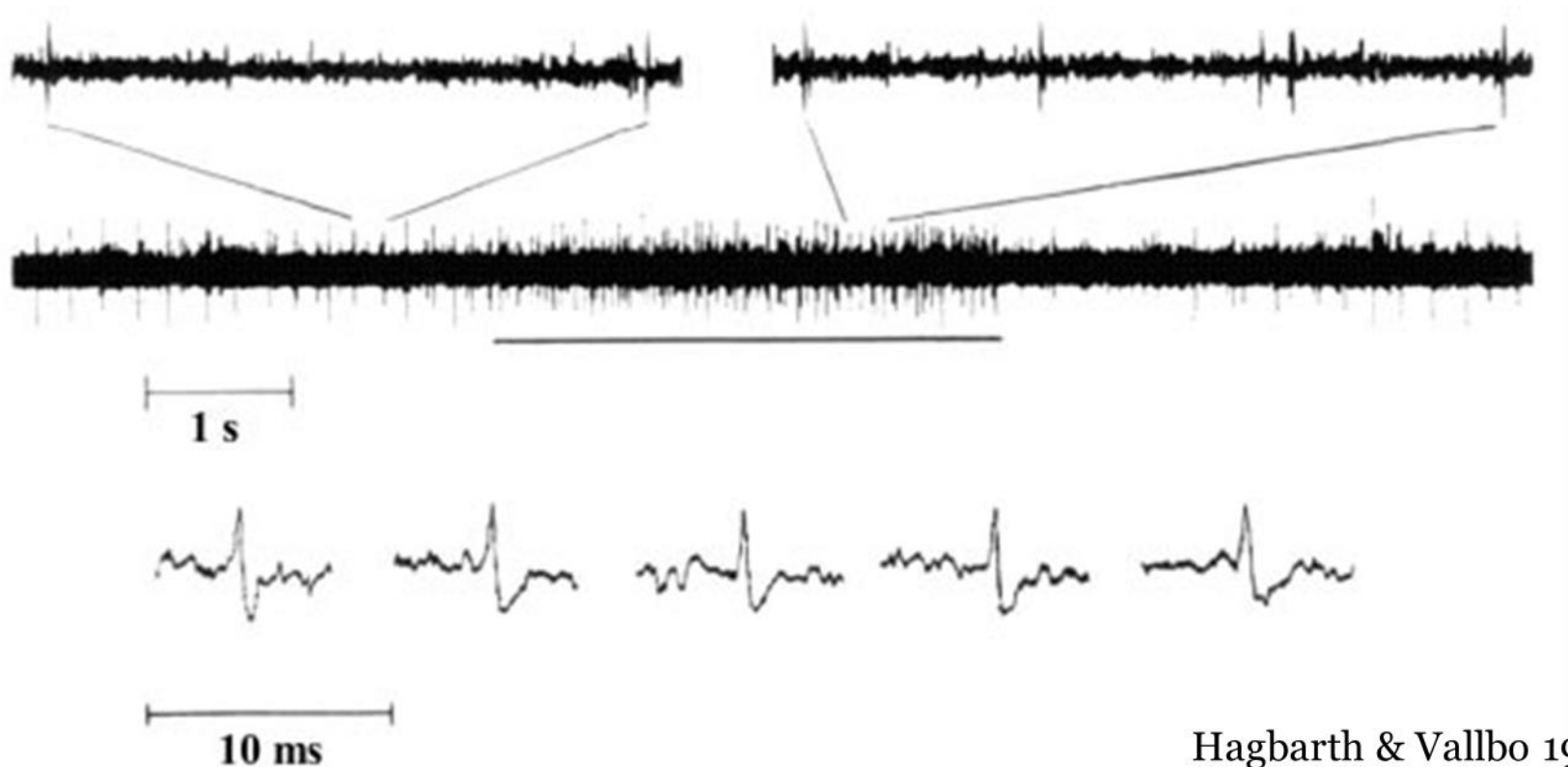


Adrian, 1926

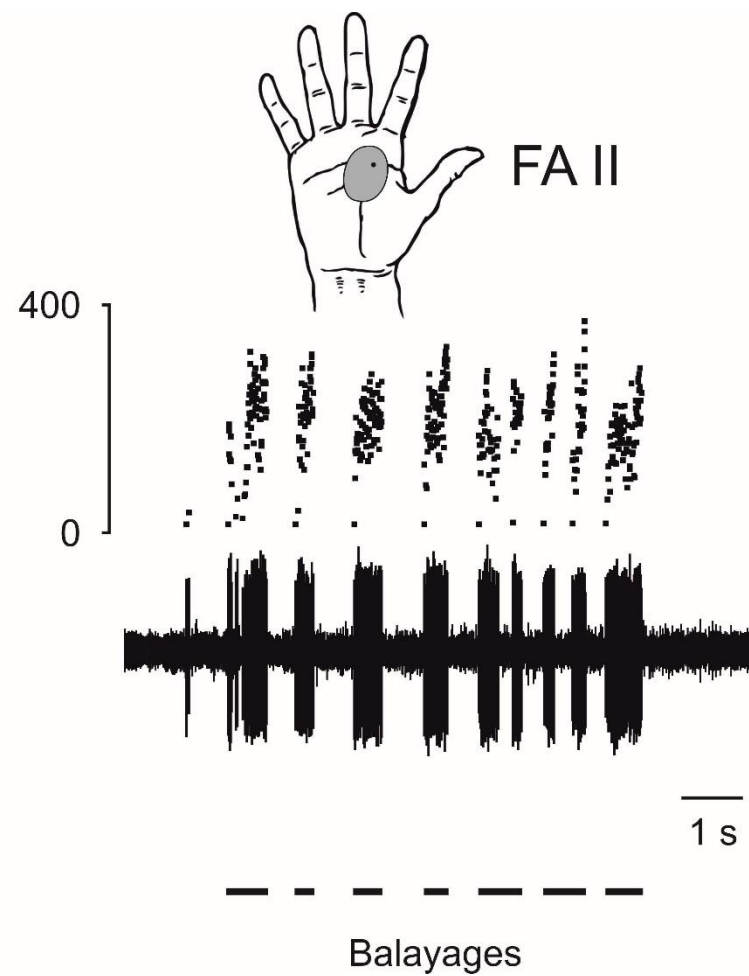
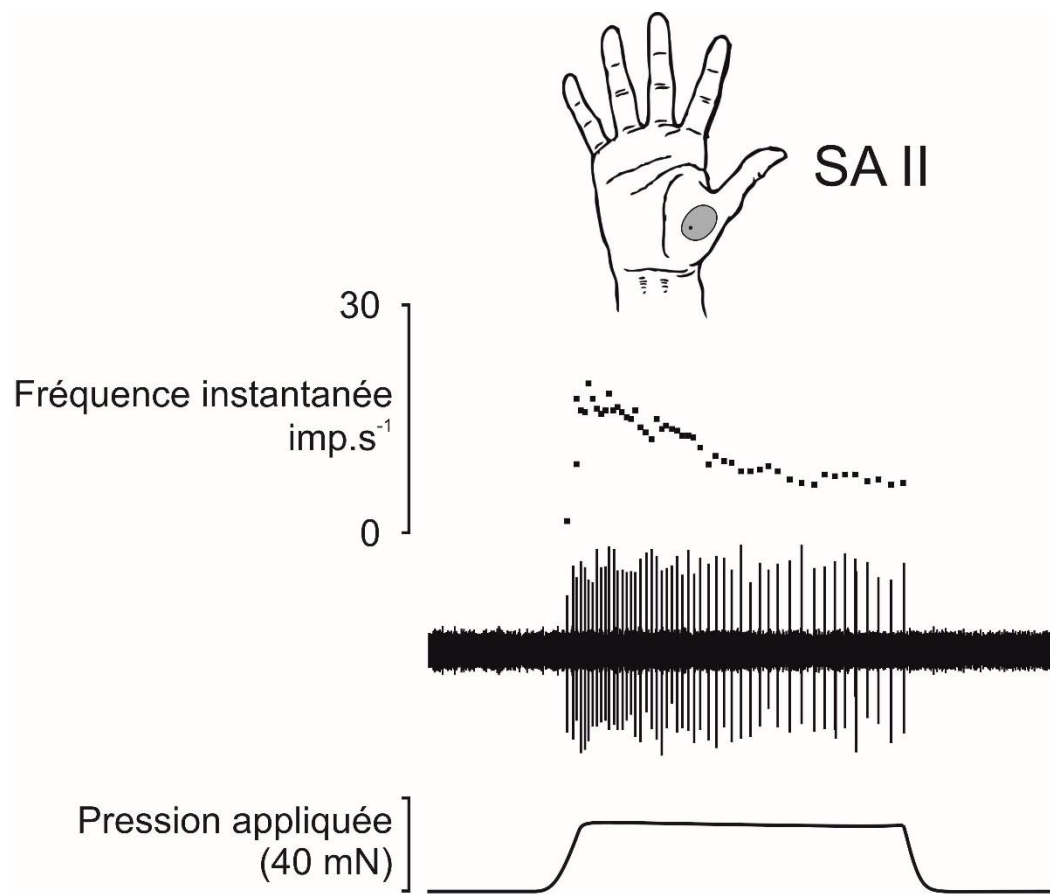
Hensel H and Boman K. Afferent impulses in cutaneous sensory nerves in human subjects. *J Neurophysiol* 1960

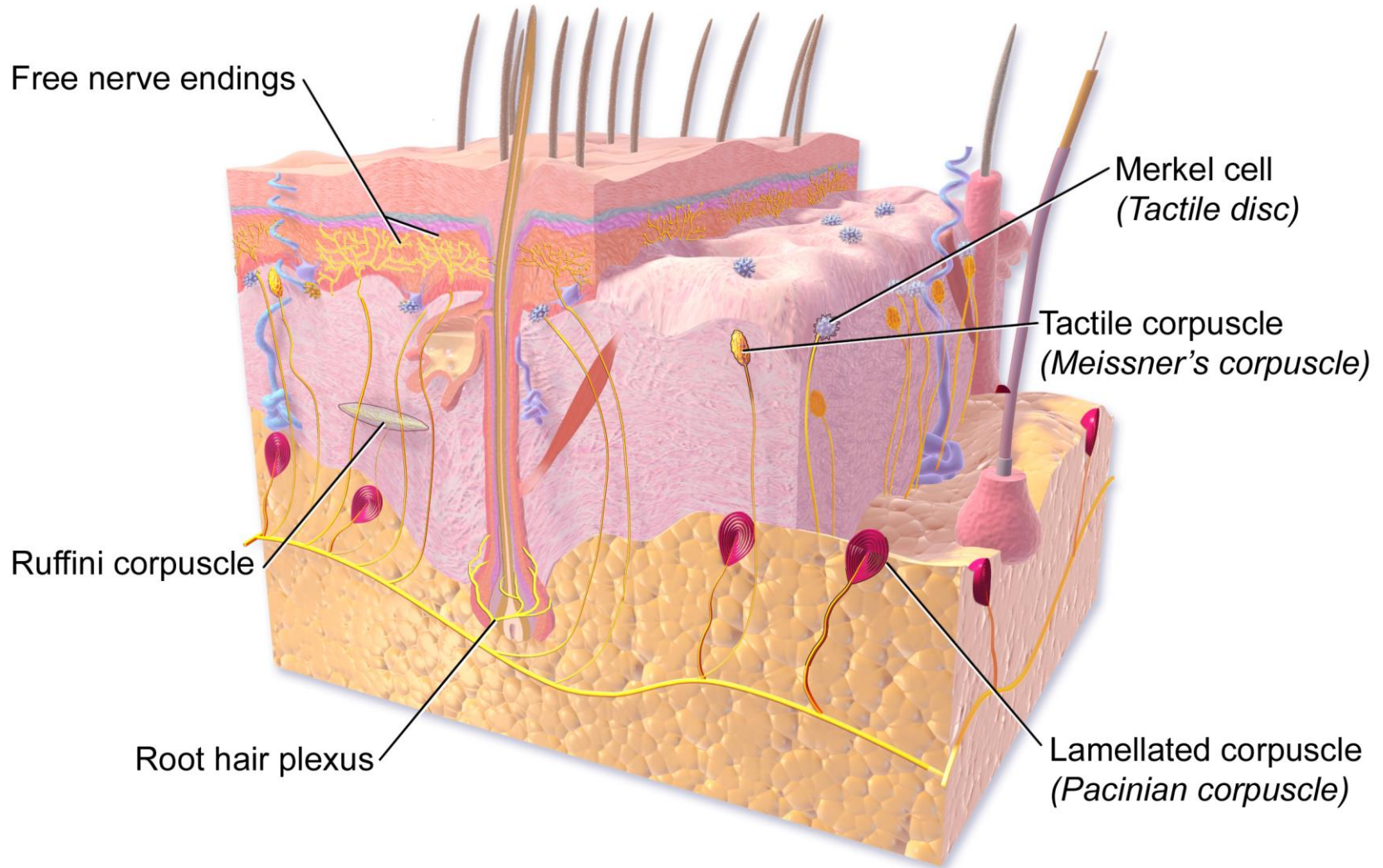
Knutsson E, Widen L. Impulses from single nerve fibers recorded in man using microelectrodes. *Nature* 1967

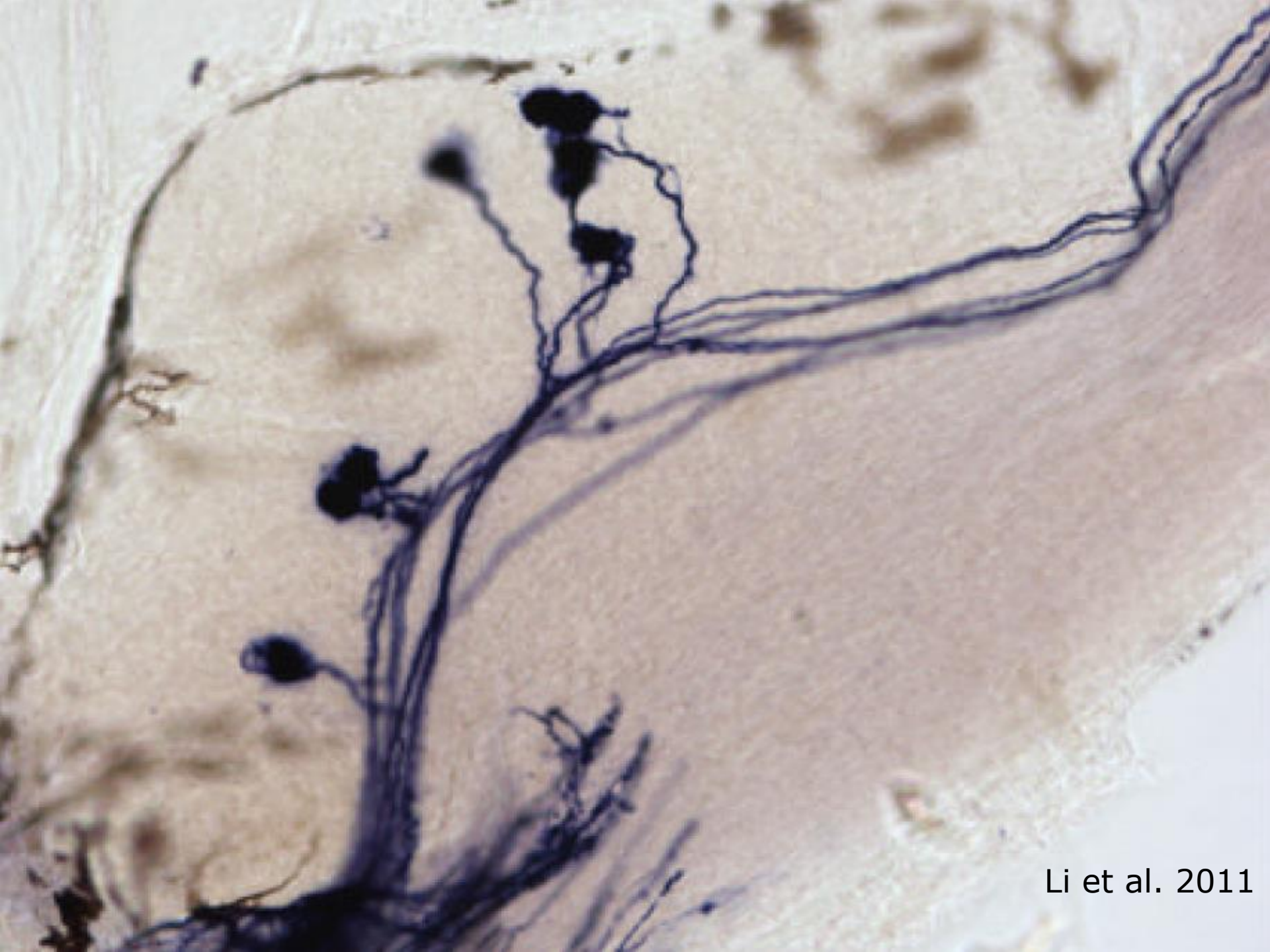
Hagbarth KE and Vallbo AB. Mechanoreceptor activity recorded percutaneously with semi-microelectrodes in human peripheral nerves. *Acta Physiol Scand* 1967



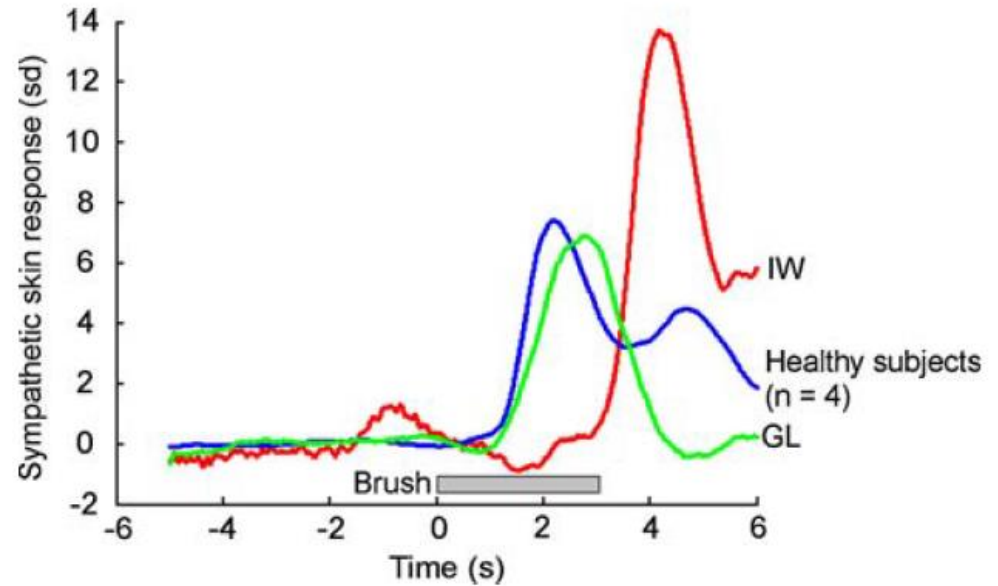
Hagbarth & Vallbo 1967



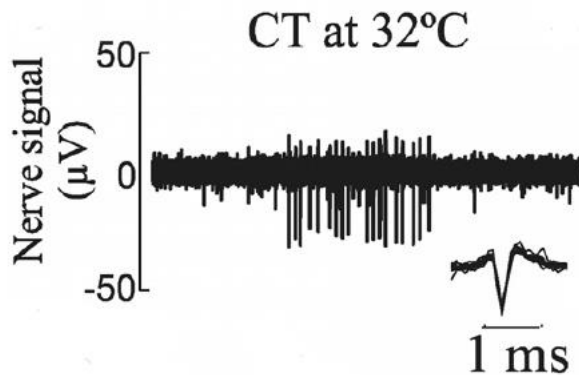




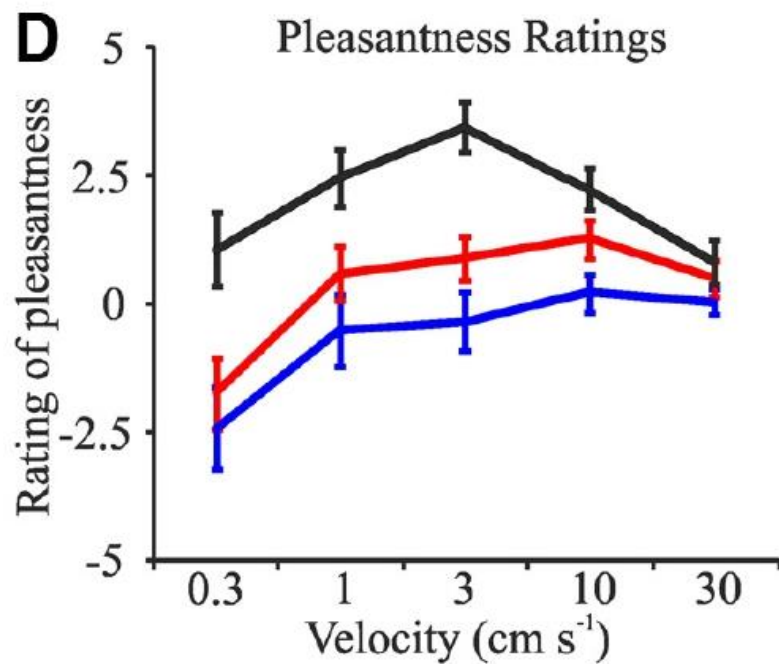
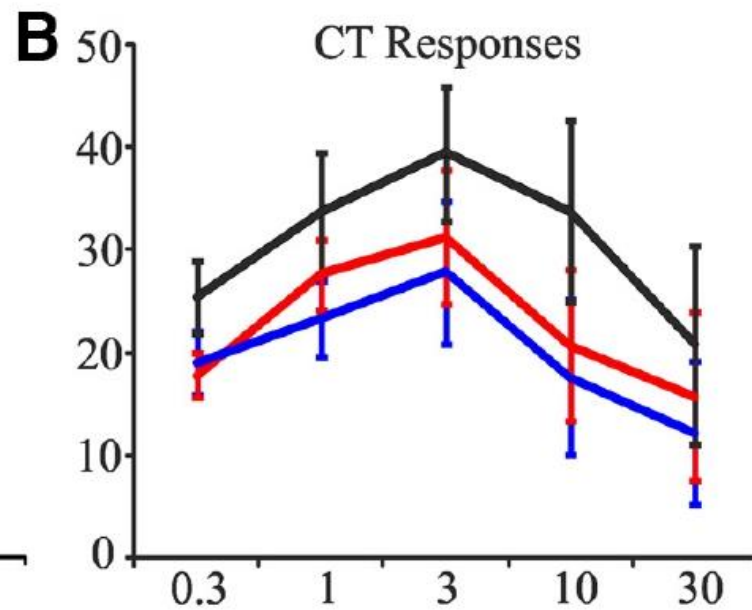
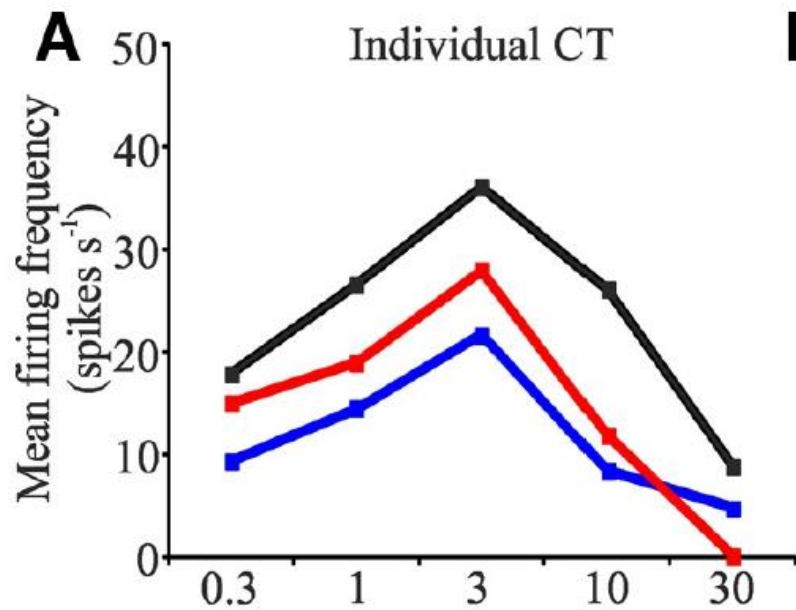
La découverte des récepteurs de la caresse



Olausson et al. 2008

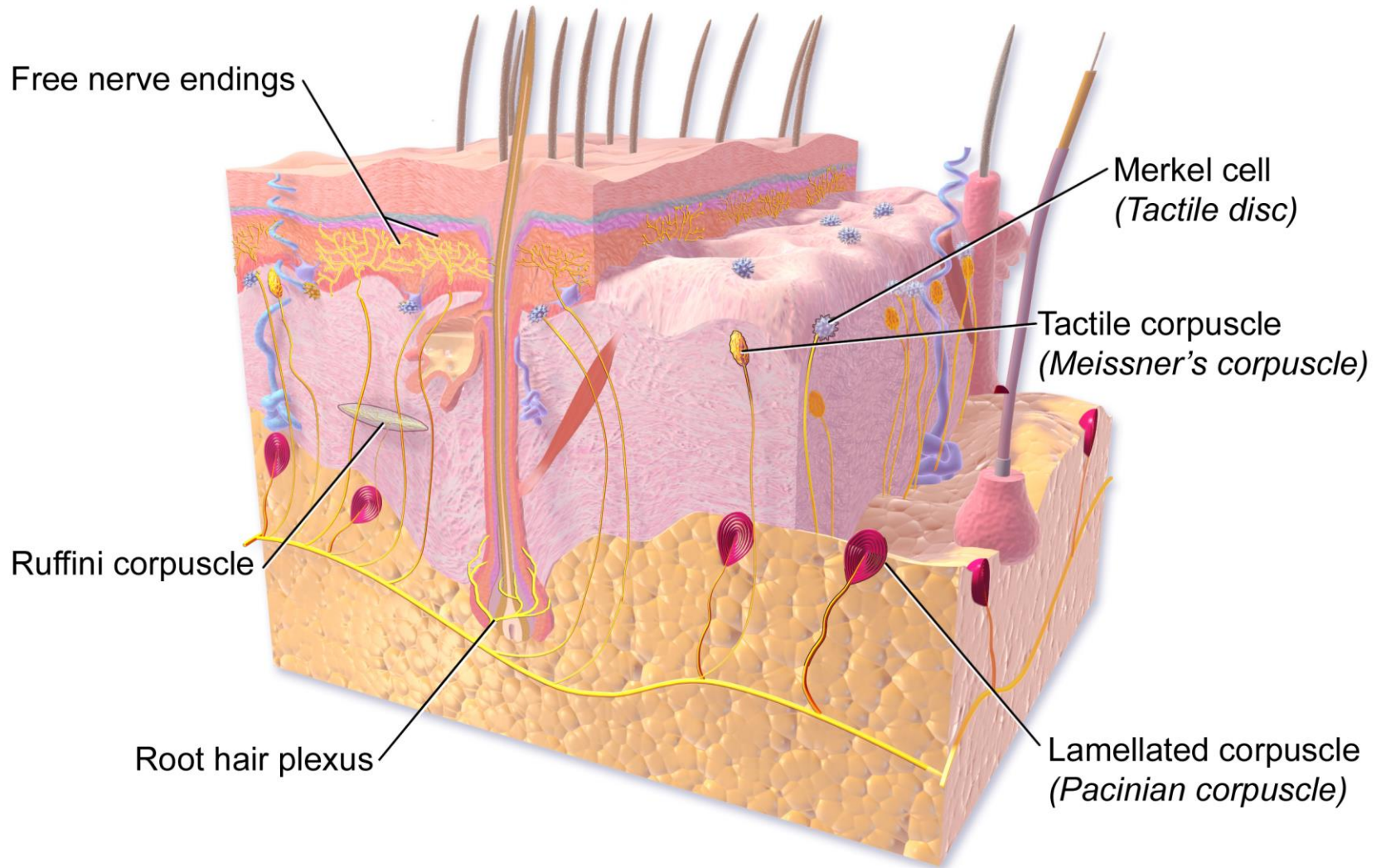


Ackerley et al. 2014

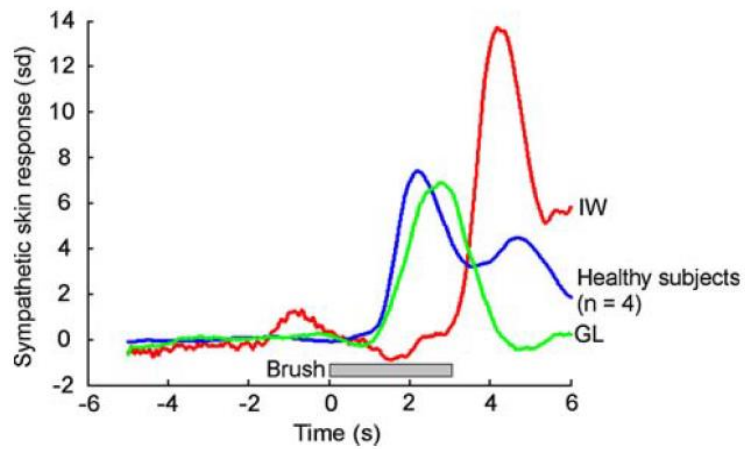
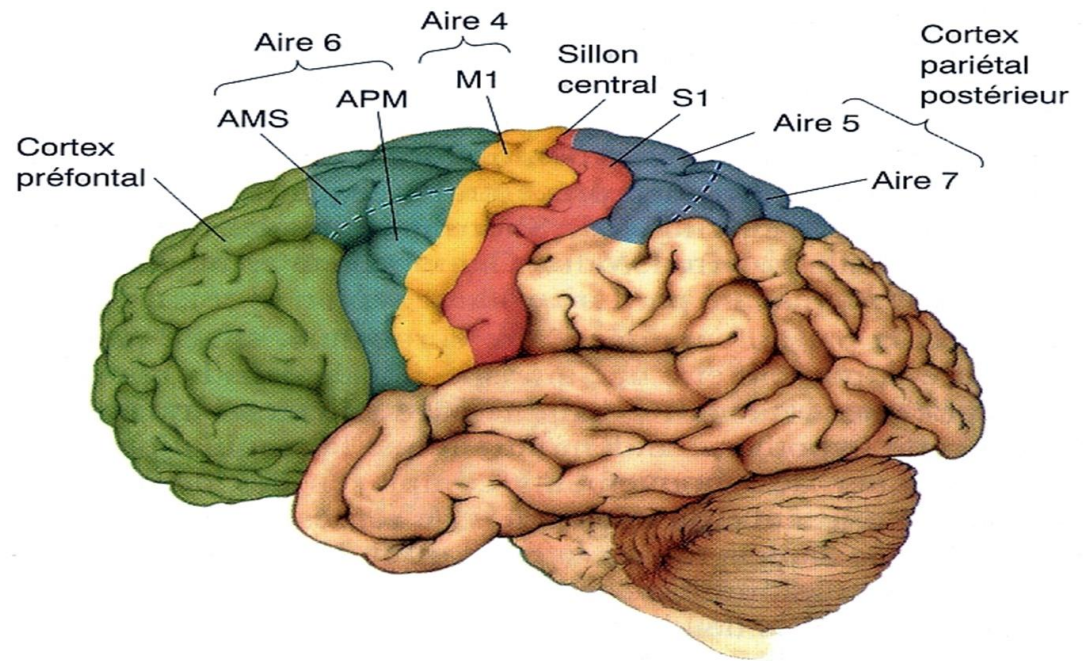
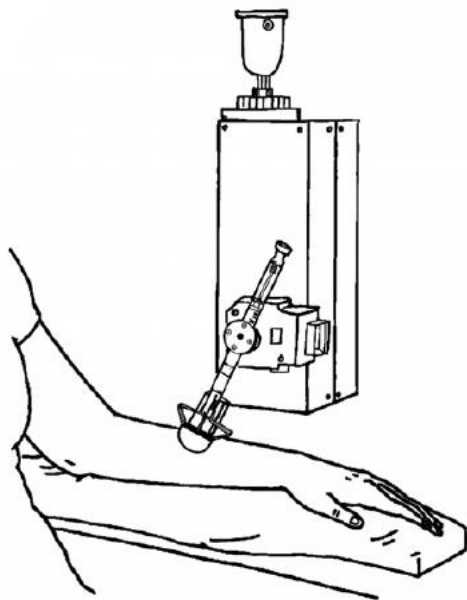


Stroking temperature

- Cool 18°C
- Neutral 32°C
- Warm 42°C



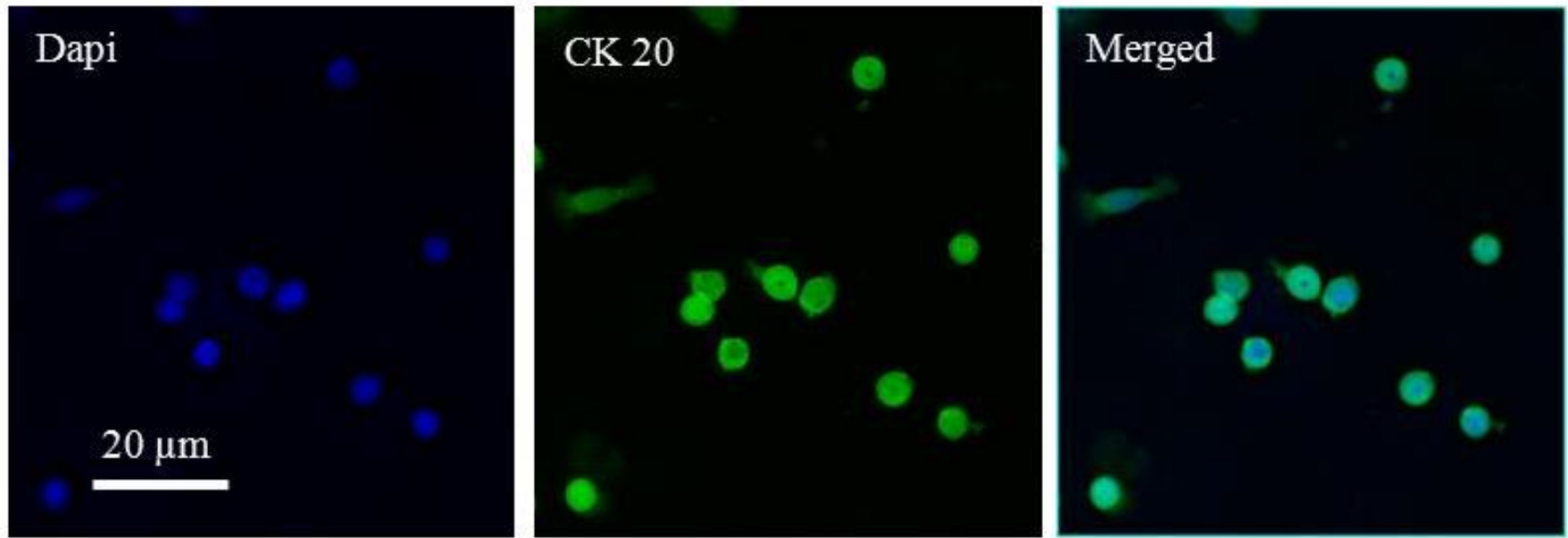




Olausson et al. 2008



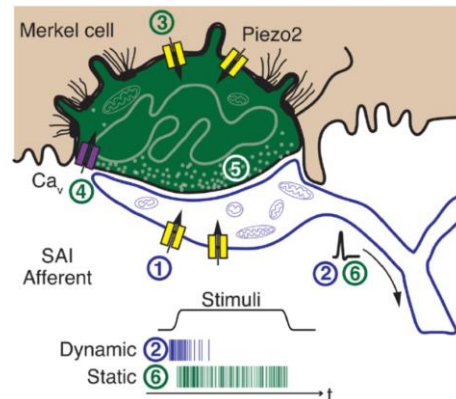
Théorie de la spécificité? Les faits...



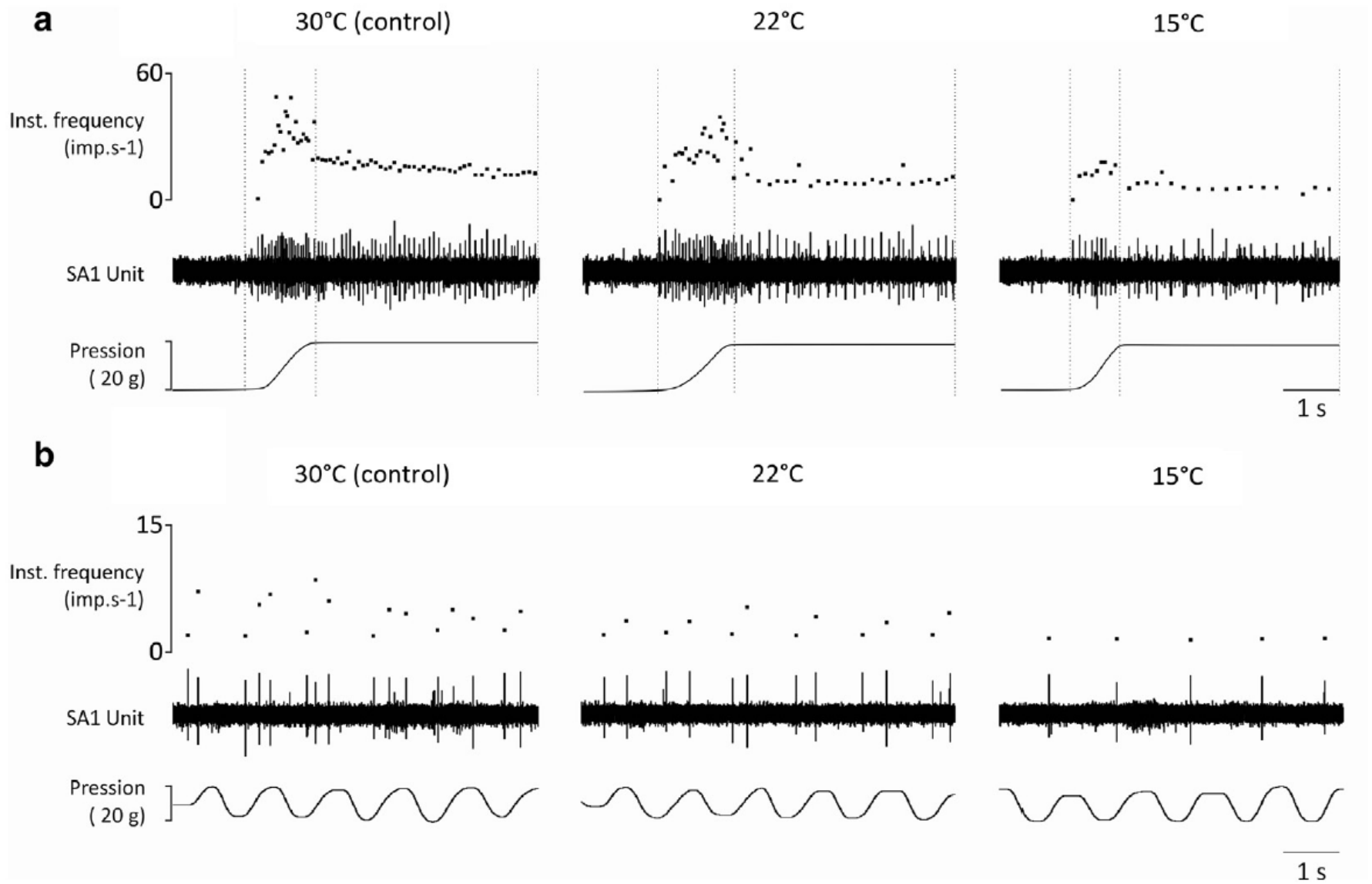
TRPM8



Mentha (mint)



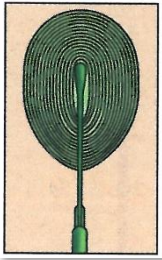
Bouvier et al. 2017



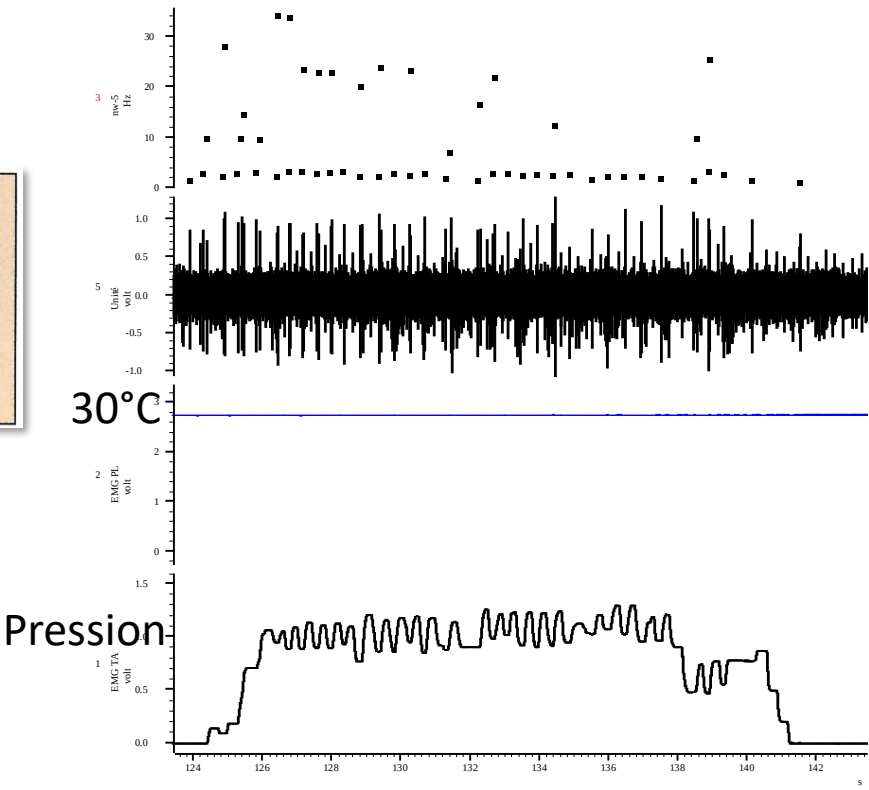
L'illusion de Thaler



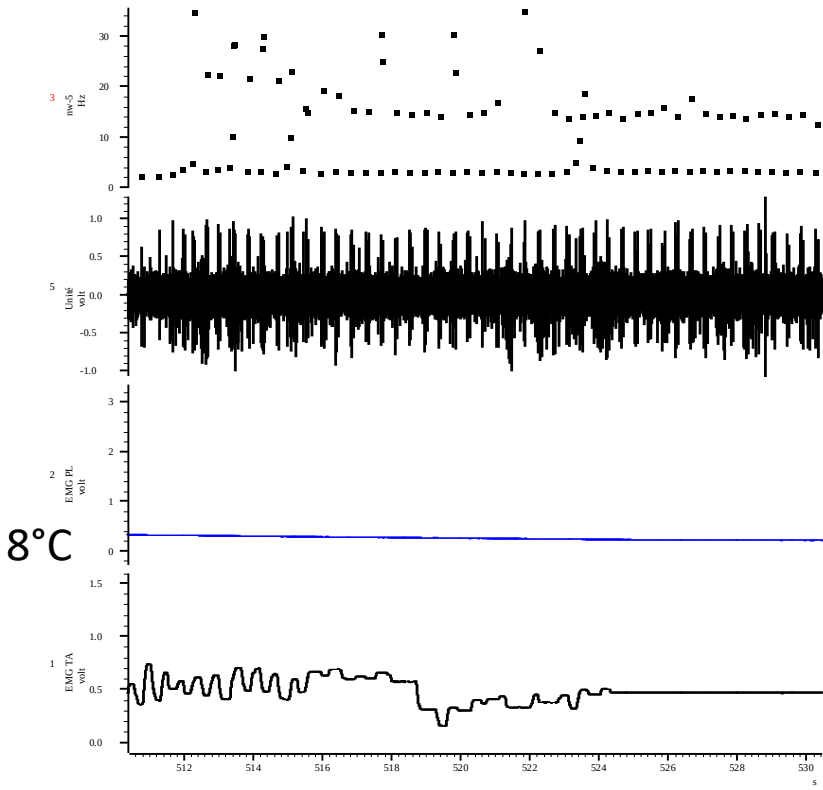
FA2 Pacini



Température ambiante



Sonde refroidie à 8°C

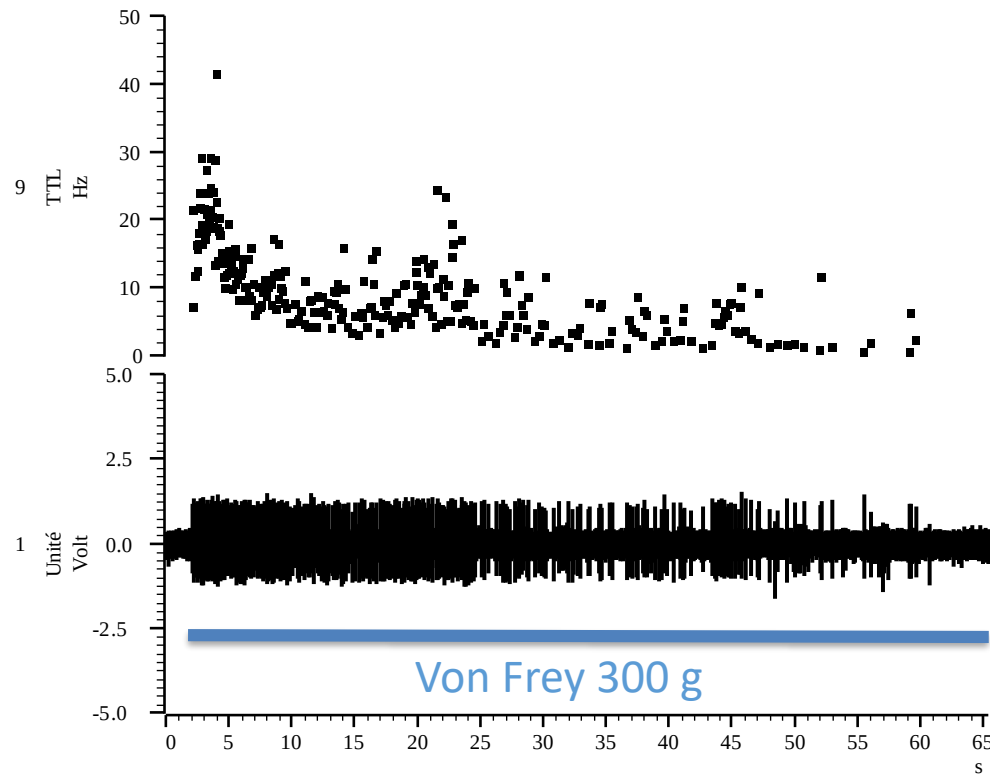


Un autre mécanisme de transduction?

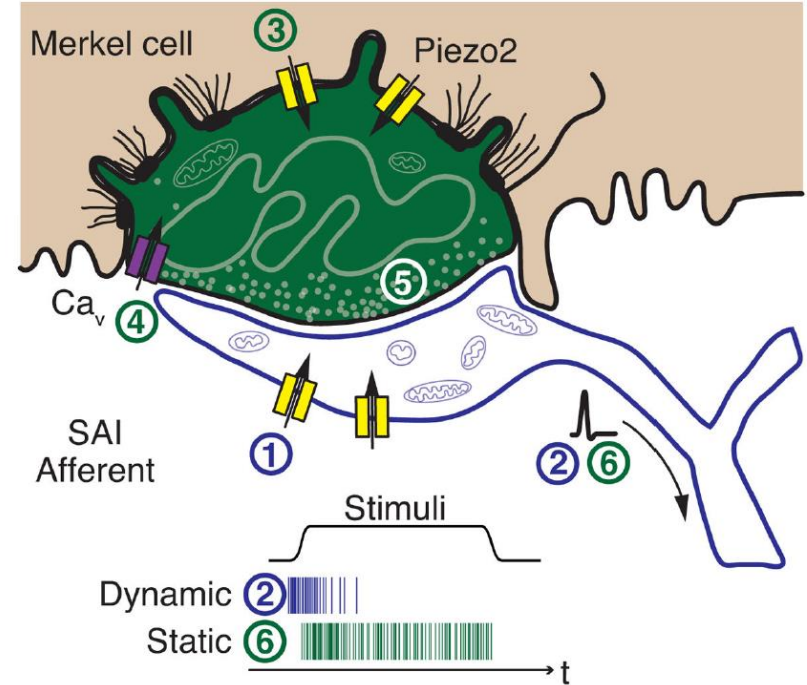
Published in final edited form as:

Nature. 2014 May 29; 509(7502): 617–621. doi:10.1038/nature13250.

Epidermal Merkel Cells are Mechanosensory Cells that Tune Mammalian Touch Receptors



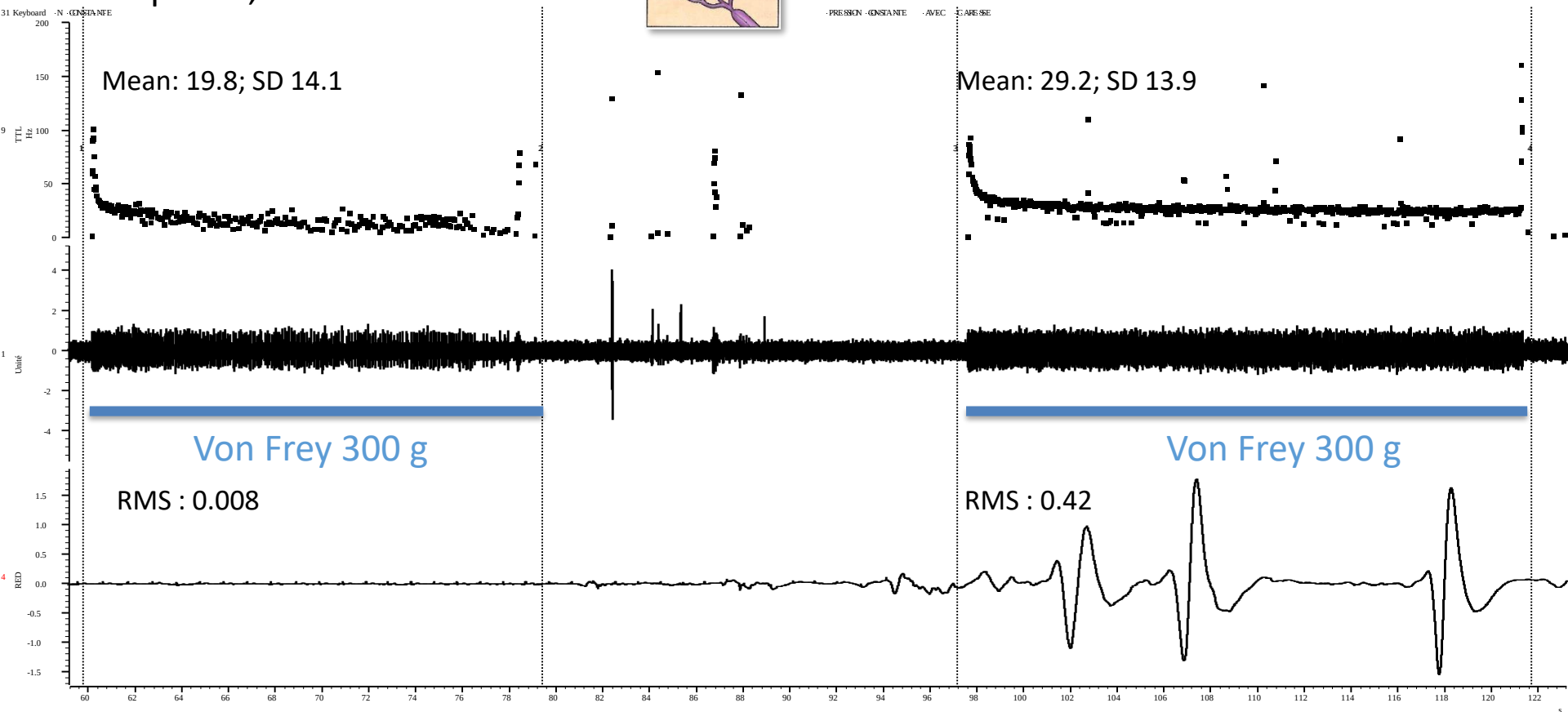
Mouchnino et al. En préparation





SA1 pouce, situation neutre

Condition caresse bras





MA Bueno, B Semail, M Crest,
PH Cornuault, L Mouchnino, E Ribot-Ciscar,
R Ackerley, A Kavounoudias, L Samain.