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HISTORICAL NOTE .....

Von Frey's pain spots

The physiology of sensation began with Johannes Müller (1801–58), who devised the law of specific nerve energies. Magnus Blix first showed the modal character of cutaneous sensation with a tactile stimulator, which dropped a horse's hair. Max von Frey discovered discrete pain points or "Schmerzpunkte" on the human skin when probing it at threshold intensity for sensation with fine needles or plant spicules. Von Frey placed and pressed a single hair on the skin. He determined the threshold force needed to produce the sensation of touch by varying the size of the hair. He used probes to localise cold-, warm- and pain-sensitive spots. He also showed the sensory spots by applying electrical stimulation to discrete points on the skin. He showed points sensitive to pressure, pain and temperature (fig 1). Each sensory modality had a specific, minute, highly specialised receptor. The skin is composed of a mosaic of four types of sensory spots: touch, cold, warmth and pain. This is the foundation of von Frey's (1894) theory of receptor sensitivity

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Figure 1 Von Frey's pain spots. From *Untersuchung über die Sinnesfunktionen der menschlichen Haut, Abhandlungen der mathematisch-physischen Klasse der Königlich Sächsischen Gesellschaft der Wissenschaften*, 1896.