Introduction

The undisputed father of psychophysics is Gustav Theodor Fechner, a German scientist and philosopher who directed efforts to find a way for measuring sensations mathematically.

Gustav Theodore Fechner (1801–1887).

Fechner distinguished two types of psychophysics: *outer* and *inner* psychophysics.

Outer psychophysics deals with the relation between a sensation and the characteristics of the stimulus that evokes the sensation.

Inner psychophysics, in turn, studies the relationship between a sensation and the characteristics of the underlying neural activation. At the time of Fechner, techniques suitable for investigating inner psychophysics were not available; more recently, the development of electrophysiological and imaging experimental methods

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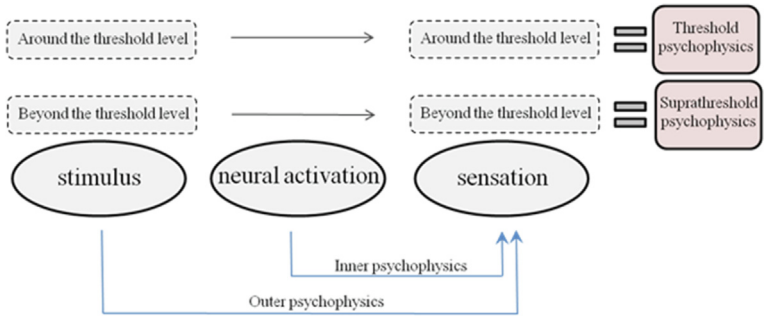
has made it possible, allowing a better comprehension of neurophysiology of perception.



Inner and outer psychophysics, threshold and suprathreshold psychophysics. See text for explanation.

In its common meaning, psychophysics is called *threshold psychophysics,* because it aims at estimating the threshold (*i.e.*, the minimum perceivable intensity of a stimulus, or the just noticeable difference between two stimulations). However, a particular branch of psychophysics measures the effect of *suprathreshold* stimulations: it is the *suprathreshold psychophysics*.

This treatise deals with the classical form of psychophysics: *outer threshold psychophysics*. An introduction to suprathreshold psychophysics, however, is provided in chapter 16.