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The Context, Significance, and Reception of Helmholtz's Physiological Acoustics

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Helmholtz published an influential work in 1863, *The Sensations of Tone*, that illustrates his deep interest in the intersection of physics and physiology. Much of his pre-1871 career is marked by questions overlapping both domains. His work on the conservation of energy in 1847 sprang in part from study of the energy transformations in the movement of frog muscles. In the first half of the 1850s he moved forward to the measurement of nerve impulses, developed his own view of sense perception, and began a two-front inquiry into physiological acoustics and optics in the 1850s. In the work leading to the *Sensations of Tone*, Helmholtz developed a number of distinct instruments to support his diverse acoustic experiments. He collaborated with a Paris-based instrument maker, Rudolph Koenig, who became a significant contributor to experimental acoustics in the late nineteenth century. Koenig became one of the chief interpreters of Helmholtz's acoustics, incorporating some of Helmholtz's main ideas into new apparatus. However, in developing his own instruments Koenig carried out a series of experiments that called into question Helmholtz's cherished hypotheses about tone quality and combination tones.