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Neuromuscular transmission in the 17th century

Jan Swammerdam (1637–1680)¹ in the Netherlands was among the first to take an experimental approach to the problem of neuromuscular transmission. He demonstrated that the “animal spirits” which caused muscle contraction did not inflate the muscle as had been asserted by Galen since the first century AD and by Croone² and Sylvius, Swammerdam's former teacher at Leyden.

In a posthumously published report³ he stated “a muscle at the time of its contraction, undergoes no inflation or tumefaction, from the afflux or effervescence of the supposed animal spirits; but that, on the contrary, it in this state becomes smaller, or collapses; or, to express my meaning more clearly, it takes up less room than before.”

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Annus mirabilis 1664

“For scholars . . . concerned with the workings of the brain, nerves and muscles, 1664 was an annus mirabilis. That year saw Steno's work on muscles and glands, Croone's anonymously written theory of muscle contraction, Willis' *Cerebri Anatome*, and the treatise that was to have the most lasting interest for all physiologists, philosophers, and psychologists: *Traité de l'Homme*, by Descartes.”

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