

# Robert Boyle

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Robert Boyle was perhaps the finest experimental natural philosopher of his age. He was active in the Republic of Letters, being one of the founding members of the Royal Society and a correspondent with scientific luminaries of his day. He was in broad strokes an adherent of what was then called the mechanical philosophy, which held that all qualities of natural things could be reduced to the properties of matter in motion. He was a reductionist about qualities, holding that “almost all sorts of qualities... may be produced... by such corporeal agents as do not appear either to work otherwise than by virtue of the motion, size, figure, and contrivance, of their own parts” (Boyle 1666, preface).

Boyle was also an experimentalist about scientific knowledge. Rather than begin with first indubitable principles which would then ground hypotheses about the nature of bodies, his aim was: “to devise experiments, and to enrich the history of nature with observations faithfully made and delivered; that by these and the like contributions made by others, men may in time be furnished with a sufficient stock of experiments, to ground hypotheses and theories on” (Boyle 1773, 121). Here Boyle is following the Baconian inductive method – to which, it should be said, Spinoza pays at least lip service. He writes in *TTP* that “the method of interpreting nature consists above all in putting together a history of nature, from which, as from certain data, we infer the definition of natural things” (*TTP* VII 7; III/98); and in ep. 6 that he thinks a history (in Bacon’s sense) of fluids is “something all Philosophers ought greatly to desire, as being very necessary” (Ep. 6; IV/34).

Boyle’s interaction with Spinoza was mediated by Henry Oldenburg. Oldenburg and Boyle had met while the former was serving as tutor to the latter’s nephew, Robert Jones. Oldenburg sent Spinoza a copy of one of Boyle’s works, *Certain Physiological Essays* (almost certainly the Latin version, *Tentamina quaedam physiologica*, since Spinoza could not read English) with a letter dated 21 October 1661. Spinoza read the book and responded with a letter of his own. The exchange comprises eps. 6, 11, and 13. Eps. 6 and 13, from Spinoza to Oldenburg are some of the longest in Spinoza’s oeuvre.

It is difficult to say with certainty whether Boyle influenced Spinoza, or vice versa. But it seems unlikely. In their mediated exchange, they largely just disagree. This disagreement stems, at least in part, from their wildly different conceptions of scientific method. Boyle, as we said above, was a more-or-less strict experimentalist, who sought to found theories about (to take the case in the correspondence) the nature of niter on experimental data. Spinoza, on the other hand, did not think that experience could reveal the natures of things; only the highest kind of cognition could do that (see TIE[29]). He writes that Boyle’s experiments are no better than other (it should be said, much worse) experiments that Spinoza mentions, “*from which, however, this* [the hypothesis concerning the nature of niter] *is not proven*” (Ep. 13; IV/67). Little about Spinoza’s views seems to have changed after the exchange, and Boyle, for his part, continued his experimental investigations more-or-less untroubled.

## **Bibliography**

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