

What is the Goal of Modern Science?

“Whether, in the end, science will prove to have been a blessing or a curse to mankind, is to my mind, still a doubtful question.”—Bertrand Russell, *The Future of Science* (1924)

By any casual reckoning, the modern scientific project has thus far proven a mixed success. To list the pros and cons would be a tedious and probably controversial enterprise, but no one would deny that even the most beneficial advances brought about by modern science have often resulted in unintended and unforeseen negative consequences.

What would an assessment of the success (or lack thereof) of modern science entail? This could only be gauged relative to some criterion based on what we (earthlings) are trying to achieve by means of modern science. But do we know this? Is the pursuit of science, for example, simply an end in itself? Or does it aim at some goal or goals beyond itself?

We can perhaps learn something about the goal of modern science from those who made significant contributions to getting the whole project off the ground. The writings of two of the most influential early champions of modern science, Francis Bacon (1561-1626) and René Descartes (1596-1650), offer intriguing clues about how early modern philosophers thought, and failed to think, about the purpose of the scientific revolution that their writings helped to bring about.

At crucial junctures of their texts, both Bacon and Descartes advocated the benefits of experimental science for humankind in general. Modern science was aimed at bolstering, in Bacon’s words, “human utility and power.” Broadly speaking, this meant

that humans were no longer to pursue truth solely for its own sake but rather for the use and benefit of humankind as a whole.

In his 1620 [*The Great Instauration*](#), Bacon prays that by outlining a new method of scientific discovery and invention he will help “to endow the human family with new mercies.” More particularly, he hopes that from his method “there may spring helps to man, and a line and race of inventions that may in some degree subdue and overcome the necessities and miseries of humanity.” Bacon’s writings already outline many of the basic features of what we think of (often rather obscurely) as “the scientific method,” for example, in his emphasis on hypotheses to be tested by carefully contrived experiments. Taken as a whole, Bacon’s new science promised humanity a way “to command nature in action,” and for the sake of the aforementioned “mercies,” however vaguely defined.

Descartes, likewise, envisioned a method and a vast array of experiments that would allow human beings to command nature. His 1637 [*Discourse on the Method of Rightly Conducting One’s Reason and Seeking the Truth in the Sciences*](#) remains one of the most elegant and powerful statements of the aspirations of philosophical modernity. The extraordinary breadth of Descartes’ hopes for modern science is captured by the following famous passage:

“Through this philosophy we could know the power and action of fire, water, air, the stars, the heavens and all other bodies in our environment, as distinctly as we know the various crafts of our artisans; and we could use this knowledge...for all the purposes for which it is appropriate, and thus make ourselves, as it were, the masters and possessors of nature.”

Descartes’ emphasis here and throughout the text falls on the mastery and possession of nature, while his reference to using

this mastery for "all appropriate purposes" appears remarkably vague. He does provide some further detail, however. The new philosophy, he says, will promote "the invention of innumerable devices which would facilitate our enjoyment of the fruits of the earth and all the goods we find there." Modern science, as Descartes conceived it, thus promised to make life easier and more enjoyable for human beings, in large part through the invention of innumerable machines and gadgets. Descartes also emphasized the great potential benefits of modern science for health, which he considers (rather strangely) as "the primary good" of life and (rather more sensibly) as a necessary condition of all other human goods. All of these predictions have, of course, come to pass, and probably to a far greater extent than Descartes himself could ever have imagined.

Bacon and Descartes thus provide only rather abstract indications of what they regard as the ends of modern science. All they tell us is that science is to make life easier and more enjoyable, or at least less miserable. Beyond this, their writings are surprisingly short on details about the ultimate goal. Modern science would give humanity (as it to some extent has) increasing command over nature, but as to the precise purpose of this mastery they offered scant detail.

If the purpose of scientific inquiry remains rather obscure even today, looking back at two of the key early advocates of modern science at least gives us the advantage of knowing that this obscurity extends back to the very origins of the modern scientific project. It is worth noting that ancient science, as it developed from Thales to Aristotle, took a substantially different view of the purpose of science. Instead of advocating the command of nature with a view to meliorating the human condition, the ancients promoted the understanding of nature as an end in itself.

Assuming it's still an open question as to whether science will prove to be a blessing or a curse to humankind, as

Russell suggested, it's possible that the ancients discovered an apparent paradox: by pursuing science as an end in itself and not as a means to an end, they may have found a model superior for improving the human condition.

Additional Reading: [*The New Organon and Related Writings*](#); [*The Philosophical Writings of Descartes*](#)

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