

## **Boscovich's theory lost in the evolution of words**

**Roger J Anderton**

**R.J.Anderton@btinternet.com**

As the human race evolves of too does it language; our vocabulary increases. There are several reasons for why Boscovich's theory is mostly ignored, one of the reasons is the evolution in the meaning of words.

The title of Roger Boscovich's book of his theory in Latin is “Theoria Philosophiae Naturalis redacta ad unicum legem virium in natura existentium”. The first three words in English are “Theory Philosophy Natural” J M Child in his translation of that book [1] adds “a” and “of” reverses the “Philosophy” and “Natural” to make it then - “A Theory of Natural Philosophy.” This is all legitimate to make it better rendition of translation from Latin into English.

Anthony Milkotin [2] has this to think on the title: “the meaning of the title of Boscovich's magnum opus must first be deciphered. The title is unusual — theory of a philosophy. What does it mean?”

“Theory Philosophy Natural” he is now rendering the first two word “Theory Philosophy” as “Theory of a Philosophy”

He then takes this as possibly meaning two different things: “ From today's point of view, such a theory could mean one of the two things: 1) something above the experiments; a theory that puts the findings reached by experiments into a system, or 2) it could simply be another name for philosophy. In other words "philosophy" of natural philosophy, the latter in Boscovich's time still being considered, following Aristotle, physics.”

He then goes into history of “philosophy” : “for centuries "pure" philosophy meant only some of the most idealistic aspects of Plato's thought. Aristotle, interpreting Plato, classified under "pure" philosophy metaphysics, ethics and politics. In the Middle Ages, the aforementioned disciplines were renamed and termed "moral philosophy." Natural philosophy, on the other hand, included, what we today consider, sciences.”

So we then get on to how things have changed in modern times: “In contemporary usage, we would call Boscovich's book the "philosophy of science." However philosophy of science as conceived today, is the domain of the philosophers, not the scientists. And Boscovich was in the first place a scientist and then, of course, a theologian. In his case, and in connection with this work, he was a

scientist who reflected, or philosophized, over his experiments; he was conceptualizing his scientific discoveries into a higher sphere, i.e., he was adding logic and his mind's visions to experimental data.”

So its interesting to note how these terms: natural philosophy. experimental philosophy, moral philosophy, philosophy of science etc. have evolved. More terms have arisen to describe things that were not originally split.

He continues: “Consequently, the proper way to understand Boscovich the scientist is through his philosophy of science. The former dean of Croatian philosophers, now deceased, Professor Vladimir Filipović refers to Boscovich's book as "philosophical reflection" upon the latter's experiments; Boscovich thus created a work which went beyond his "physical theory".

So within all that evolution of terms there is still a “physical theory” in what Boscovich is talking about.

My contention is that with all this evolution of terms that Boscovich's “physical theory” is still within his work and gets mostly overlooked by modern physics establishment hidden in these word changes.

Boscovich had a unified field theory – as I claim – and it should be more widely recognised, it isn't and one of the reasons for this is that it gets lost in evolution of words.

Milkotin then asks: “Why did he [Boscovich] not simply call his book *philosophie naturalis* — natural philosophy?”

That is calling the book “Philosophy Natural...” instead of “Theory Philosophy Natural...”

Milkotin thinks word “theory” was not necessary: “Or perhaps Boscovich wanted us to understand the universe on the basis of both his philosophy and his experimental sciences. In a number of instances throughout the book Boscovich tells us that he has come to his conclusions by means of both his experiments and his thinking (per reflexionem) or by legitimate reasoning (*legitima ratiocinatione*). The very title of his work gives an indication that theory comes first and natural philosophy second. Consequently, his is a theory which explains and defines the sciences: it is a comprehensive reflection on the nature of sciences. By itself Boscovich's natural philosophy (basically physics) would be a torso.”

Milkotin offers: “As we know, in many instances, subsequent experiments only confirm the hypotheses reached by pure reasoning. Philosophy's task is, and this might have been Boscovich's intention, to put pure reason at the service of experimental sciences. Let us not then be surprised that a Catholic theologian wanted to see his discoveries confirmed by the perennial principles of philosophy.”

Milkotin thinks: “Newton, the forerunner of Boscovich, and the latter's great idol, refuted the value of purely philosophical thinking in the study of nature.”

That does not seem right to me, Newton had some strange philosophical ideas from alchemy, Sam Kean [3] says it shaped Newton's science. Probably, Milkotin was overlooking that aspect of Newton or not aware of it.

Anyway Milkotin cites Professor Zenko dealing with the differences in the thinking processes between Newton and Boscovich, by that we have: “Boscovich must have thought, as later Schopenhauer did too, that thinking itself is part of the functioning of the universe and that by studying its own (mental) operations, our mind also studies some aspects of the universe. Along this line of reasoning, Boscovich argued that "new physics," in studying nature, also studies living bodies with, of course, their psychological components. This is more than self-evident in his Appendix to the *Theoria*, labeled *De anima et deo* or The Mind (soul) and God.”

Skipping about how Boscovich was trying to reconcile science with religion, and getting back to the physics: “Zenko gives us the final definition of Boscovich's theory as follows: 1) The theory (*Theoria*) is not a hypothesis which must be experimentally proved; 2) it is not simply natural philosophy because Boscovich goes beyond the sciences; 3) Boscovich' theory is a new and radical philosophical conceptualization of the essence of reality reached by means of experimental sciences.”

So the physics theory that Boscovich offers go beyond experiments.

Milkotin then wants to consider the philosophical ideas detached from experiments, so there we leave him except it is too interesting to omit the connection between Boscovich and the science fiction film *Star Wars*: “For Boscovich, force not matter was a fundamental feature of the universe. Matter itself is a field of forces, the extended atoms, girating [\*] but not colliding with each other, in constant motion, a self-generating energy. Boscovich viewed even God as force, according to Zenko's interpretation . (Remember "Force" as the ruling phenomenon of life in the movie *Star War*). This force in Zenko's view is "organogena," i.e., the force of the technique, technique itself, or skill, being also a component part of nature. Schopenhauer zeroes in on the same phenomenon but calls it Universal Will. ...”

In other words the Unified Field of Boscovich is like the Force from *Star Wars*.

[\*] - likely means “gyrating”

## References

[1] *A Theory of Natural Philosophy*, Roger Boscovich, trans JM Child, MIT Press, 1966

[2] ROGER BOSCOVICH'S *THEORIA PHILOSOPHIAE NATURALIS* AND THE RISE OF MODERN PHILOSOPHY, ANTHONY M. MLIKOTIN, *Journal of Croatian Studies*, XXVIII-XXIX, 1987-88 – Annual Review of the Croatian Academy of America, Inc. New York, N.Y., This paper was presented at the 19th National Convention of the American Association for the Advancement of Slavic Studies held in Boston, November 5-8, 1987.

<http://www.studiacroatica.org/jcs/28/2803.htm>

[3] *Newton, The Last Magician*, by Sam Kean

<http://www.neh.gov/humanities/2011/januaryfebruary/feature/newton-the-last-magician>