The Importance of Boscovich

The book, “Remarkable Physicists from Galileo to Yukawa,” by Professor Ioan James, FRS, mentions names such as Einstein, Newton and Galileo. All these names can be recognised as having been mentioned in most University physics education courses, except one – that of Father Roger Boscovich.

Of Boscovich's theory, he says, “This daringly original work, the mature expression of ideas that Boscovich had put forward in a series of papers from 1745 onwards, was well known and influential for 150 years thereafter. Faraday, Clerk Maxwell and Kelvin were all interested in his ideas, as were many of the leading continental scientists of that period. That it should be so neglected today, at least in the western world, is ironic since Boscovich’s ideas are in several respects in tune with modern thought.”

Roger Josef Boscovich (1711-1787) is the father of modern atomic physics. He was the first to deal with a coherent theory of point-particles interacting in a type of field of force obeying a universal force described by a force curve (what he called a sphere of influence), and so was the first to propose a type of Unified Field Theory.

Science students should learn about the originator of many of the theoretical concepts they deal with in physics. This lack of acknowledgement of Boscovich leaves science students misinformed that the concepts they are dealing with are due solely to Einstein (and a few of his associates) in the early 20th Century, when in fact they had far earlier origin.

Although mostly unknown in the West (i.e. America), Boscovich is well-known in his native area, and is mentioned in the Hrvatska enciklopedija (see: http://www.studyincroatia.hr/about-croatia/culture/300th-anniversary-of-the-birth-of-rudjer-josip-boskovic/rudjer-boskovic-full-biography) where Heisenberg points out the importance of Boscovich.

With University physics there is over-emphasis on changes Einstein made to physics, in his miracle year 1905 etc. What happened before 1905 has been mostly ignored. Further, it is told to physics students that Einstein was unable to derive his Unified Field Theory, misleading both students and teachers that there is no Unified Field Theory – but a look at the history of physics shows this to be patently false, because long before Einstein Boscovich presented a Unified Field Theory.

The omission of Boscovich from standard physics/science education is a fatal flaw in that education system. Without any mention of Boscovich a physics student cannot have a proper grasp of how Newtonian physics evolved before Einstein into what became the so-called Relativity and Quantum revolutions, and how Boscovich's foundational contributions led to those changes.
I propose - ignite a Boscovichian revolution in Physics – whereby those working on Unified Field Theory research could learn the basic origins of their work in a theory arrived at in the mid-1700s, and help to solve existing physics difficulties with Relativity and Quantum physics.

Boscovich should no longer be omitted from University physics courses. No physics student can have had an adequate physics education if Boscovich is omitted.

Roger J Anderton
December 2012
Endorsements by:
* * * name institute/affiliation