

# **Celebration of more than 250 years suppression of Unified Field Theory: Report on the International Conference for R G Boscovich September 8th - 10<sup>th</sup> 2011**

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The Unified Field Theory has been suppressed for more than 250 years mirroring the suppression of Galileo, but being a far more successful suppression.

The Unified Field Theory was provided to us in 1758 by the priest-scientist Boscovich, and the suppression continues despite the verification of the theory. The essential part of the theory is a unified description of point-particles. Mainstream in part accepts the idea of point-particles and uses the idea but does not give acknowledgement to the full theory. The full theory is only recognised by a few scholars such as appeared at the International Conference on Boscovich; their agenda to get the theory and Boscovich more widely known in the International community but not knowing how to achieve this.

Despite the Conference being put on for Boscovich and Croatia proclaiming 2011 as celebrating Boscovich year [1]; the majority in the mainstream (and alternative for that matter) science community choose to ignore the man and his theory. [see note] Hence the suppression by what is effectively a conspiracy of silence.

At the Conference I met fellow allies in trying to promote the Unified theory of Boscovich, such as Augustus Prince from Brookhaven National Laboratory saying that Boscovich's theory solved all the problems of particle physics, and Dragoslav Stoiljkovic being one of the few professors teaching Boscovich's theory, explaining that Boscovich's theory gave us quantum physics.

Boscovich was a poet for all seasons, he wrote poetry on science to try to make its understanding easier. As John L. Heilbron noted there was a long shadow of the Galileo affair on the priest's life with its inhibition on Copernican system, and similarities could be linked between Galileo's life and Boscovich's.

Newtonianism led to Boscovich providing a unified theory based on point-particles.

TV Review gives an interesting plot for the cartoon series Futurama [2] : “The plot for this one features the Professor trying to find the smallest particle of matter in the universe, and thus create a unified field theory. It’s the same sort of thing Stephen Hawking used to do before he started doing cartoon voices. “I like physics,” he says in a great cameo, “but I love cartoons.” “

Even in science based comedy series they can admit that the unified theory is based on smallest particles ( and none smaller than point-particles). But when it comes to such a simple theory – its historical creation in the 18<sup>th</sup> century- the mainstream tends to want to pretend that it was not created. Hence we have obscure conferences such as this one in 2011 commemorating the theory's creation and it all but being ignored by the majority.

In his day – Boscovich was extremely famous, as New Scientist 1958 [3] reported: “Most younger scientists have never met the name of Boscovich and only a few of the older school remember having heard of Boscovichian atoms. “ And then goes onto say: “Serious estimates by some historians of science put Boscovich among the dozen greatest physicists, the equal of Newton, Leibnitz, Euler and Franklin.”

So in 1958 he was mostly forgotten but he had been very famous; since 1958 he has become even more forgotten.

Eddington explains the theory as being a greater change than Einstein's: “When we compare the universe as it is now supposed to be with the universe as we had ordinarily preconceived it, the most arresting change is not the rearrangement of space and time by Einstein but the dissolution of all that we regard as most solid into tiny specks floating in void.” [4]

Eddington unfortunately does not mention that this theory is due to Boscovich; but it is.

The long shadow of the fame given to Einstein at the same time that Boscovich's theory was verified however overcast Boscovich and diverted fame away from that due to him. So that the long shadow of the Galileo affair over Boscovich became the long shadow of Einstein; hence now he lies forgotten except by a few scholars.

Ugo Baldini noted that French scientists did not want to reply to Boscovich's presentation of his theory and for thirty years were silent. Boscovich complained of being ignored.

We note the three stages of a great “truth”, first its ignored, second its ridiculed and third its accepted. So far – Boscovich's theory is at stage 1 for over 250 years.

Boscovich seems to be the first to present a TOE (theory of everything) and gets ignored; this is similar treatment that people labelled “cranks” receive from the mainstream. Boscovich's theory is not that much different to many of the theories that these so-called cranks write; so the mainstream just does not like that sort of theory and just wants to ignore it. That is just prejudiced narrow-minded blindness on their part and a refusal by them to accept what a physical theory of everything is truly like. So Heilbron poses the question was Boscovich a “crank”. The answer being that by 18<sup>th</sup> century standards the theory was not considered “crank”. But by modern standards there are many who want to interpret such a theory as “crank.”. But as Prince pointed out if you want to

make a case for Boscovich being “crank” then there is nothing to stop you accusing Newton of being a “crank” also; because Boscovich's theory is based on applying point-particles to Newton's ideas. So such a position means you might as well dismiss all of known physics as “crank” from its very beginning.

D'Agostino talked about the synthesis between relativistic and structures of matter theories in Boscovich's theory. By “structures of matter” we might now call atomic physics or quantum physics; so Boscovich's theory provides a unification of a type of relativity with a type of quantum theory; something that modern physics theorising cannot do. The 18<sup>th</sup> century had unification and mysteriously that unification was lost in the 20<sup>th</sup> century and remains lost. As D'Agostino explains it: “In my thesis, *Theoria* presents both aspects, i.e. at the same time it reconciles a relativistic theory with a structure-of-matter theory and, moreover, this is precisely the feature that characterizes Boscovich’s main opus, and differentiates it from our modern theories. In fact modern Relativity and structural theories do not necessarily overlap in modern physics. Einstein’s theory is relativistic without directly concerning any structural theory of matter and modern theories on the structure of matter are not necessarily relativistic (other non-relativistic structural theories as exemplified by the 19th century integrating-molecules theories).”

Ivica Martinovic, told us that – Boscovich constructed an original theory of forces – the core of his natural philosophy aimed to explain all the known physical phenomena.

Augustus Prince, Brookhaven National Laboratory talked about the Boscovich's force curve, saying it formed a new paradigm to explicate various physical phenomena in both the micro-world and the macro-world:

“Within this paradigm, an algorithm is established which produced a functional representation of the atomic spectra of hydrogen and a temperature dependent black-body energy distribution of radiation which compares very favorably with the experimental data. Further representations afford suggestions for the predictions of the specific heat of solids, photoelectric effect, etc. The Boscovichian points are assumed to move under the action of a force (acceleration) that varies inversely proportional to the cube of the radius from the point center, which leads to an orbit described by an equiangular (logarithmic) spiral. This spiral is subsequently used to simulate the concepts used in phyllotaxis (a constituent of plant morphology) and the gnomonic growth of mollusk shells (e.g. nautilus). The intercepts for the stable and unstable points on the Boscovich curve which are the roots of the equation used, are calculated via the application of Fibonacci-type sequence of integers. In addition, utilizing the shape of Boscovich’s “extended” curve of force (acceleration), the prospect of interpreting the mysterious attractive force beyond the visible Newtonian region of space (e.g. black holes, dark energy, etc.) is proposed.”

James McAllister, University of Leiden told us that Boscovich assuming the principles of impenetrability of matter and of continuity, argued that, before two solid bodies can collide, their velocities must be equalized by some repulsive force that extends beyond its surface. This force, rather than impact, is the true mechanism by which motions are transferred. Boscovich thus eliminated the notion of contact action from natural philosophy, arguing that it is mechanistically less intelligible than action at a distance.

Hans Ullmaier, Forschungszentrum Jülich and Technische Hochschule Aachen, Jülich told us --Boscovich’s model of matter led to several new aspects which influenced the subsequent research

in this field. Boscovich was the first who (1) pointed out that our (common) senses fail in the world of microcosm (2) anticipated the divisibility of chemical atoms (3) attempted a “theory of everything” (TOE) by postulating one kind of elementary particles (puncta) and one universal force law (curva Boscovichiana) (4) emphasized the importance of the spatial arrangement (= structure) of the elements of matter.

In Serbia and Croatia, Boscovich is a bit more famous because that is the area he was born. (There is an Institute named after him in Croatia [5] and there is also a museum [6] ) Dragoslav Stoiljkovic of Serbia teaches Boscovich's theory, but notes that there is not much teaching of it elsewhere, he says: “Numerous achievements of modern science show that Boscovich was right in many respects, especially where his curve of forces is concerned. We have found in modern literature the several dozens of two particles interaction curves that confirm the similarity with Boscovich curves in a wide range of the hierarchy of matter: nucleons, nucleons and lambda zero hyperons, atoms (the chemical and the physical interactions), molecules, charged colloidal particles, clay particles, macromolecules, and nano-particles.”

I talked about Boscovich’s Influence on Einstein’s Unified Field Theory Research. Unified field theory comes from Boscovich’s idea of there being spheres of influence around point-particles; this became his theory of atomism. Faraday called this sphere of influence – field; an idea picked up on by Maxwell; and Maxwell’s theory was worked on by Einstein. Hence Einstein and a select number of scientists were engaged in Unified Field Theory research based on Boscovich’s theory. Boscovich was the forerunner of modern 20th Century physics and his theory held insights into what became the Relativity and Quantum revolutions. Einstein’s method was to work from an approximation and then update; hence his Special Relativity was an approximation which needed update to General Relativity. Similarly Einstein’s General Relativity was deemed an approximation that needed update to Unified Field Theory. Boscovich’s theory was the Blueprint for this.

Stanislav Joze Juznic, University of Ljubljana told us Boscovich’s followers and their students were able to develop strong high-schools supporting of Boscovich, who kept his great influence even in 19th century and paved the way for the modern use of Boscovich’s ideas in Faraday Maxwell’s electromagnetism, Kelvin’s atomism, and Bohr-Heisenberg’s quantum mechanics.

As I celebrated at a dinner party in honour of Boscovich and we clinked glasses I pointed out that according to Boscovich the glasses never touched; that the theory was that the glasses were made of point-particles and these point-particles never came into contact; that as they got closer to each other eventually they repulse each other before contact was made. Such a theory is of course too abstract and seemingly contrary to people's perceptions of reality that they cannot accept thinking in such a way. But it is the theory of the unified field- where we live in the Matrix type virtual world and do not see reality as it really “is.” Augustus laughed in agreement, and he proposed that there should be a meeting every year to celebrate this suppression (by mental blockage) of Boscovich.

## **Papers**

John L. Heilbron, Worcester College, Oxford  
A Jesuit Mathematician at Loose in the Republic of Letters

Ugo Baldini, University of Padova  
Physics and metaphysics in Boscovich

Edoardo Proverbio, INAF – Osservatorio Astronomico di Brera  
Ruggiero Giuseppe Boscovich's research into producing quasi-achromatic and aplanatic compound lenses and eyepieces made of one single material

Ivica Martinovic, University of Zagreb  
Distinctive characteristics of Boškovic's natural philosophy

Salvo D'Agostino, University of Rome "La Sapienza"  
Boscovich's *Theoria Philosophiae Naturalis* as a Synthesis between a Relativistic and a Structure-of-Matter Theories

Barbara V. Villone, Istituto di Fisica dello Spazio Interplanetario,  
INAF (in absentia)  
The Boscovichean concept of space and time in the *Supplementa to Philosophiae Naturalis Theoria*

Augustus Prince, Brookhaven National Laboratory  
An Analytical Form of the Boscovich Curve with Applications

James McAllister, University of Leiden  
Boscovich, the Paradoxes of Contact Action, and the Rise of Dynamism

Fabio Bevilacqua e Angelo Chierico, University of Pavia  
Boscovich, the "vis viva" Debate and the Unitary Law of Force (title may change)

Hans Ullmaier, Forschungszentrum Jülich and Technische Hochschule  
Aachen, Jülich  
Boscovich's Pioneering Ideas on the Elementary Structure of Matter

Enrico Giannetto, University of Bergamo  
Boscovich's *Theoria Philosophiae Naturalis*

Arcangelo Rossi, University of Salento  
R. J. Boscovich's Philosophy of Space

Lucio Fregonese, University of Pavia  
Heat and Electricity in Boscovich's *Theoria philosophiae naturalis*

Dragoslav Stoiljkovic, University of Novi Sad  
Contemporary Verifications and Applications of Boscovich's Theory of Natural Philosophy

Davor Krajnovic, European Southern Observatory, Garching Bei  
München  
Legacy of Boškovic: Understanding assumptions and knowing uncertainties

Roger Anderton, United Kingdom  
Boscovich's Influence on Einstein's Unified Field Theory Research

Stanislav Joze Juznic, University of Ljubljana  
Boscovich's Mid-European Legacy

Pasquale Tucci, University of Milano  
Boscovich's Influence on Nineteenth-Century Electricity and Magnetism

Luciano Agnes, Pavia  
Ruggiero Boscovich in Pavia

Efthymios Bokaris and Vangelis Koutalis, University of Ioannina  
Teaching Boscovich's Puncta in S.E. Europe: Athanasios Psalidas' "Physics in General"

Eri Yagi, Eri Yagi Institute for History of Science, Tokyo  
The Important Role of Particles through the Development of the Mechanical Theory of Heat

Ivan Mirnik, The Zagreb Archaeological Museum  
Roger Boscovich on Croatian Medals

Marco Martin, Liceo Classico D'Oria, Genova  
"Il Giornale di viaggio da Costantinopoli in Polonia di Ruggiero Giuseppe Boscovich". A surprising Report through Eastern Europe

Daniele Macuglia, University of Chicago  
Boscovich and the Mechanism of Vital Phenomena: An 18th Century Jesuit at the Borders Between Physics and Biology.

Luigi Pepe, University of Ferrara  
"Boscovich's Elementa universae matheseos": An incomplete project

Cesare Tocci e Danilo Capecchi, University of Roma "La Sapienza"  
Three Technical Reports of Boscovich on the Statics of Domes

Luca Guzzardi, INAF – Osservatorio Astronomico di Brera  
The End of a World? Ruggiero Boscovich and the Tradition of Didactic Poetry

Elio Antonello, INAF, Osservatorio Astronomico di Brera  
Water-filled telescopes

Ezio Vaccari, University of Insubria, Varese  
Boscovich and the Earth Sciences

Maria Giulia Lugaresi, University of Ferrara  
Hydraulics and Hydrodynamics in Boscovich papers

Riccardo Balestrieri, SALt, San Marino  
The silting-up of the port of Savona (1771-1772)

Conference book to be published circa December

## References

[1] <http://www.zenit.org/article-31425?l=english>

[2] TV Review: Futurama

<http://whatculture.com/tv/tv-review-futurama-reincarnation.php>

[3] Roger Boscovich: A 20<sup>th</sup> Century mind in the 18<sup>th</sup> century, Dr A L MacKay, 6<sup>th</sup> March 1958

[4] The Nature of the Physical World, A. S. Eddington, Cambridge at the University Press, 1929 (based on 1927 lectures) UK p 1-2; see Eddington on the Greatest Scientific Revolution of the 20th Century, Roger J. Anderton, General Science Journal.

[5] <http://www.irb.hr/en/geninfo/>

[6] [www.dpedtech.com/ROGERJOSEPHBOSCOVICH.doc](http://www.dpedtech.com/ROGERJOSEPHBOSCOVICH.doc)

[note] : Mainstream just seems to want to ignore this type of theory, while the alternative science community although tending to accept this type of theory, seems to want to ignore the theory's origins from Boscovich.

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