

John Schuster

PROFESSOR of HISTORY & PHILOSOPHY of SCIENCE

University of Sydney

Email Correspondence

December 22 – 24, 2015

PREFACE

The following happy dialog got off to a good start, in part, evidently, because Schuster found my attachments to echo some of his own interests: “I am a connoisseur of radical discovery claims and of the kinds of outlier challenges that can lead to them.”

It was encouraging to receive Schuster’s critique of my marketing tools: “I see that your poster is intended to get under the skin of the average professional, and it is well conceived to do so!” (This refers to my “Gravity-Sociology” postcard, attached at the end.) Assessments of later attachments were also well received: Schuster found the Mr. Natural postcard to be “fantastic.” And he expressed an interest in building on the “traction” that I had established with some correspondents to craft a “proto grant application” in hopes of ultimately getting Galileo’s experiment carried out.

Schuster also inquired as to why I chose to write to him, and of the origin of my ideas and involvement in physics. So my reply as recorded in this exchange serves to answer these questions for any interested reader.

To: drjaschuster@gmail.com
From: Richard J Benish <rjbenish@comcast.net>
Subject: Galileo's Gravity Experiment
Attachments: <Galileo's-Related-Experiment.pdf> <Gravity-Sociology-Dec-2015.pdf>

Dear Professor Schuster,

I hope you find the attached documents to be within your scope of interest.

I'd be grateful for any feedback.

Thanks for your good work.

Sincerely,

Richard Benish

Date: Wed, 23 Dec 2015 15:11:32 +1100
Subject: Re: Galileo's Gravity Experiment
From: John Schuster <drjaschuster@gmail.com>
To: Richard J Benish <rjbenish@comcast.net>

Hello Richard, (please call me John)

Thanks for these. I was trained, a bit, in physics, but if you know anything about me you know I am really an historian (of amongst other things, some small bits of physics). In fact, as if to prove I am no physicist or scientist at all, I was a couple of weeks ago elected as a fellow of the Australian Academy of the Humanities—my right location. So I must say I am not an active observer of these sorts of matters of current physics interest, although I can see you have been very active in trying to knock down some of the professional barriers on this and other potentially hot issues. So for science content per se, I am only an interested onlooker.

However, my writ in history and philosophy of science has always also run to the socio-politics of scientists, their networks and institutions. **I see that your poster is intended to get under the skin of the average professional, and it is well conceived to do so!** I have known and worked with a number of deep thinking scientific mavericks—Ted Steele the neo-Lamarckian molecular geneticist, whom you might have come across; and also a brilliant quantum chemist turned gravity theorist (was theorizing vs the existence of the Higgs Boson with an alternative theory of gravity emergent from his quantum chemistry expertise) named Peter G Burton—like Steele an Aussie. I must say Steele has made some progress, his deep publications with difficulty being published mainstream and his theory claims slowly seeping into the mainstream—not that they are about to give him the Nobel Prize. So **I am a connoisseur of radical discovery claims, and of the kinds of outlier challenges that can lead to them.** (My main historical subject, Descartes, was exactly this on the topic of realist (not instrumentalist) infinite universe Copernicanism, as I now insist, although historians of philosophy are too drowsy to realise this or even see its importance in his work. He was also extremely careful to cover himself legally and to disguise a lot about his agendas—were he alive today he'd be more pushy and public.)

Anyway, I will certainly look at your documents with interest and an open mind. Whether I can throw any light on them, other than perhaps down the track maybe give you some counsel about how to engage the establishment, is an open question.

I wonder, can you tell me more about your background—for example how you came to know so much physics, and in particular find this intriguing difficulties (I have quickly looked up some of your other stuff). I take it, or perhaps I am wrong, that doing physics is not your main vocation, since you aren't employed in the field?

Oh, one more thing, Richard. Might you tell me how you stumbled across my existence in relation to history of physics?

Best regards,

JAS

Dr. John A. Schuster, FAHA

11 Red Sands Avenue

Shell Cove, NSW 2529

Australia

Honorary Research Fellow

Unit for History and Philosophy of Science &

Sydney Centre for the Foundations of Science

University of Sydney

Honorary Fellow

Campion College

Old Toongabbie, New South Wales 2146

Australia

Commissioning Editor

Early Modern Natural Philosophy

Studies in History and Philosophy of Science (Springer)

Past President, 1984-85; 1990-93; 2002-05

Australasian Assoc. for the History, Philosophy & Social Studies of Science

Website: descartes-agonistes.com

To: John Schuster <drjaschuster@gmail.com>
 From: Richard J Benish <rjbenish@comcast.net>
 Subject: Re: Galileo's Gravity Experiment
 Attachments: <Maximum Force Nov 17 2011.pdf> <Max Force Annotation.pdf>
 <Mr-Natural-Says-LR.pdf>

Hello John,

So nice of you to write. I found your comments to be most rare and insightful.

My background is in visual art. Long ago I stumbled into a curious idea about gravity that has sidetracked me because of its potential importance.

In 1984 I realized that the idea would be either permanently killed or elevated to high prominence, depending on the result of the "holey sphere/interior falling" experiment, that I only much later learned was proposed by Galileo in 1632. Seeing that this experiment would be the most dramatic and unequivocal test, I nevertheless endeavored, meanwhile, to see if I could kill the thing by other means. Perhaps some observational data already collected would rule it out.

By this research I honed my skills as an amateur scientist. There were a few times when I thought I may have met my match, when I thought maybe the idea lost its viability for one reason or another. With dogged persistence, reading, studying, reading, studying and reading some more, I eventually came to realize that the idea (which goes by the name, *Space Generation Model*, SGM) explains all observations that I know of as well as, if not better than, General Relativity.

For several years I tried building the needed experimental apparatus, a Small Low-Energy Non-Collider, in my laboratory (= garage). This led to the discovery that my environmental controls, engineering and machining skills were inadequate for the task. An institution-grade laboratory is needed.

This effort ended in 2007, at which time I began to write with the intention of getting published. On the first page of my first paper I quoted another Schuster (Arthur) from an 1898 *Nature* article:

What is gravity?... What is inertia?... Is our much-exalted axiom of the constancy of mass an illusion based on the limited experience of our immediate surroundings?... **How are we to prove** that what we call matter is not an endless stream, constantly renewing itself and pushing forward the boundaries of our universe?

Q: "How are we to prove...?" A: By doing Galileo's experiment.

What may be my best presentation of the SGM (attached with annotation) "almost" got published in the *International Journal of Theoretical Physics*. (See Annotation for what I mean by "almost.")

Harvard Professor Gerald Holton wrote favorably of the essay that I sent you last time: "Nice... A very charming article." That essay has been praised by others, including Julian Barbour of Oxford.

My efforts are two-pronged: Plan A is to simply point out that the experiment has never been done, it is doable, and that it was proposed by Galileo. Plan B involves divulging that I think the result will be a surprise (based on the SGM).

Seeing that "fundamental" physics and cosmology have pretty much become an entertainment industry, and that serious papers that disrupt the status quo will not be accepted, I've resorted to a door-to-door marketing strategy. All first knocks appeal only to Plan A.

In response to recent attention given to a principle called "Naturalness," held up by many particle theorists and cosmologists as a worthy guide for constructing theories and understanding the Universe, I've lately tried adding humor to my approach. (See Mr. Natural attachment.) The sampling of responses is small but all over the map. Italian theorist Carlo Rovelli was duly amused and impressed. Whereas Nobel Laureate Gerard 't Hooft and Harvard Professor Matt Strassler did their best (independently) to flame my efforts. The latter two have seriously invested in the things the graphic makes fun of. Proof of their insecurity, as I see it.

I stumbled into your existence almost at random. Having just recently begun the "sociological campaign" with my new Red Flag postcard, in search of recipients, I Googled: "History of Science, Australia." When I got to your profile linked to the University of Sydney site, I almost decided not to bother you. Perhaps too far removed. But in time and space Descartes was pretty close to Galileo and Newton. I like the picture of you with your books, and item "2.c: Origins, so-called of Experimental Science(s)" tipped the scale. Lucky you! :)

In the last 10 months I've sent nearly 2000 emails and over 600 personalized hard copy postcards. My initial targets were participants at the various General Relativity Centennial celebrations all over the world.

I'm wide open to suggestions.

Many thanks for your interest and (sadly exceptional) curiosity.

Best regards,

Richard

PS: I'll look into the work of Steele and Burton.

R

Date: Thu, 24 Dec 2015 11:31:58 +1100

Subject: Re: Galileo's Gravity Experiment

From: John Schuster <drjaschuster@gmail.com>

To: Richard J Benish <rjbenish@comcast.net>

Hi Richard,

Thank you for this material. I'll study your paper and its useful annotation once I get some time after Christmas. The **Mr. Natural poster is fantastic**. History and Philosophy of science has generated a lot of irony, some penetrating, some mindless, but that is great. I can see that you cover a lot of territory, between your visual art and physics interests. That would be extremely satisfying, but even more so if more **traction** could be gained from the physics community; although I see you have indeed had some.

I am not a philosopher, of science or anything else, let alone modern physics. But there are lots of them—too many in my view—do you ever speak to any of those? I do see you have good feedback from Holton, a physicist and historian, and also an early colleague at Harvard of the young Thomas Kuhn who later was my main, but problematical mentor at Princeton, in their HPS program 1969–74. (I was teaching there last year, before we moved to England, then in 1980 to Australia. I am [still] American, in case you didn't realize it.

When it is not Christmas, I will also send you my "how the law of refraction was discovered" work, which appeared in 2000 in a collection (Gaukroger, Schuster and Sutton, *Descartes' Natural Philosophy* (Routledge, later in paperback too) and was reprised in my 2013 book about Descartes (and backed up there with an analysis of the development of Descartes' lense theory, which reconstruction supports my claims about how and when the law of refraction was found by him). But I shall not burden you now.

I am also interested in your sensitivity to the socio-politics of big time, professional science, including your interest in its professed "ideals." There has been quite a bit of discussion about all that, certainly since the 1930s, more under the label "social norms of science" going back to their invention by the Columbia sociologist Robert K Merton. These too have been subject to "ironic" deconstruction by other, less functionalist, sociologists. Then in the 1990s came a lot of attention to "trust" as the glue of modern science. I called attention to doubts about that in a long essay review of one of the key history of science books that made that claim. I'm just flagging that we may have a few things to exchange and discuss. Let's pick it up in early January—I'll write you then, having read through what you have sent.

Oh, just for amusement, I do attach a "book launch" talk I gave at a famous Sydney bookstore. The occasion was the publication of a popular book on the theme of Lamarck and my friend Ted Steele. The author, a very clever psychologist and marketing guru, had become interested in Steele as a famous Australian scientific rebel and he went to work, with some history of science mentoring from me. It is light and amusing, I trust, and gives a flavor for Steele's career (he is a card carrying member of the great Aussie scientific tradition, Nobel winning in some cases) in molecular genetics, focussed at the ANU and John Curtin School of Medicine there.)

Best regards,

JAS

To: John Schuster <drjaschuster@gmail.com>
From: Richard J Benish <rjbenish@comcast.net>
Subject: Re: Galileo's Gravity Experiment
Attachments:

Hello John,

In the course of seeking potential recipients for my new explicitly sociological marketing campaign, I have encountered many references to Merton. I have it in mind to learn more about his work and influence on more recent scholars. Also I am curious about other things you have mentioned. So please do share when you get the time.

What I need is a team of clones. Do you know of a good clone service? I would like to dive into so many things, especially back into painting. But the number one priority is to get the gravity project resolved. So almost all of my "spare" time is devoted to knocking on doors by sending electronic and hard copy versions of my work. I get enough feedback to give me the impression that, considering my constraints, the strategy is a good one.

It stands to reason that somebody out there will have the combination of perceptivity and resources needed to finally make Galileo's experiment a reality. I just haven't found him or her yet.

Enjoy the holidays!

Richard Benish

Date: Thu, 24 Dec 2015 14:34:16 +1100
Subject: Re: Galileo's Gravity Experiment
From: John Schuster <drjaschuster@gmail.com>
To: Richard J Benish <rjbenish@comcast.net>

Hi Richard,

Yes I have studied (and used to teach) Merton and the post-Merton developments in sociology, and history of science for many years. I'll get to this in the new year. I will also make some, perhaps amateurish, **suggestions to you about advancing the possibility of getting the Galileo experiment done**—this has been swirling around my mind this morning. More anon on that.

Must go, mid to late afternoon Christmas eve beckons, have a relaxed and thoughtful time in these holidays.

Best

To: drjaschuster@gmail.com
 From: Richard J Benish <rjbenish@comcast.net>
 Subject: Scientific Facts
 Attachments: <Rethinking-Rotation-Sep-5-2012 .pdf>
 <Rethinking-Einstein-Annotation-Ltr.pdf>

Hello John,

Reading your Honeywill Book Launch Remarks compels me to add an echoing element to our correspondence. The entire piece is certainly inspiring for the occasion at hand. But what struck me as the most enduring motivational part is the passage on what constitutes a “scientific fact.”

This reminds me of the first day in my first college-level science class (which occurred only a short time ago). Intent on establishing how science operated, the instructor of *Chemistry 221*, Gary Mort, began the lecture by dropping a pen, saying that its acceleration toward the floor is an empirical fact. Sitting in the front row, I had to object: “or the floor moves upward.” Having a sense of humor and wanting to proceed without further interruption, Mort smilingly repeated my comment and moved on.

On the basis of Einstein’s Equivalence Principle, comments to the effect that “the floor comes up” are not uncommon in the popular gravitational literature. But they are not really taken seriously. There is no convincing attempt to reconcile such statements with the well known “fact” (another one) that balls of matter like Earth are accurately conceived (for gravitational purposes) as being STATIC.

The real scientific fact lying at the heart of the discussion—even in our present state of ignorance—is that *the distance between the pen and the floor decreases at an accelerating rate*. Only by the most mystically detached, absurdly nit-picky, or pseudo-scientific “reasoning” would we deny this as a bona fide theory-independent FACT.

The question thus remains: Is it more ACCURATE to say that the pen falls down or that the floor comes up? Our EYES tell us the pen falls down. But an ACCELEROMETER tells us the floor comes up! If we decide to at least tentatively believe the accelerometers, we are then obliged to pursue the consequences on a variety of radical levels. For example, we would eventually find that this path leads to the need for a fourth dimension of space. Seeing that this fits rather well with the empirical “fact” of the CURVATURE of the seemingly (3+1)-dimensional spacetime continuum, we proceed in search of a genuinely irreconcilable contradiction.

Eventually we hit upon the most clear-cut way to decide between the possibilities: Drop a test object into a hole that goes all the way through the center. By not allowing the radially falling pen to COLLIDE, we can DISCOVER which statement is closer to the Truth.

I’ve attached another paper that explores this line of reasoning from the point of view of an imaginary civilization that has had no experience with gravity until their very recent first encounter with a “planet.” You will find this paper to be a little less technical, shorter, and more entertaining than the *Maximum Force* paper sent last time.

Being another essay competition piece (sponsored by FQXi = Foundational Questions Institute), I’ve attached an annotation explaining its origin and giving a glimpse of how it was received.

I don’t mean to bog you down with my work. But especially for one who is not readily familiar with the gravitational/relativistic literature, the order of reading makes a difference. *Rethinking Einstein’s Rotation Analogy* should precede *Maximum Force*.

I am very grateful for your interest and eagerly await further feedback.

Merry Christmas,

Richard Benish

Date: Fri, 25 Dec 2015 07:45:41 +1100

Subject: Re: Scientific Facts

From: John Schuster <drjaschuster@gmail.com>

To: Richard J Benish <rjbenish@comcast.net>

Hi Richard,

Ok, that is useful and I shall place *Rethinking Rotation* first in the trajectory.

The very real possibility of testing your ideas changes the complexion of the matter. Relatedly, again I see that some academic physicists take note of your views. It should be possible to assemble a little network of more “insider types” to apply for resources to support testing. Maybe you should revisit your links to sympathetic readers with that in mind. For example, can some kind of **proto grant application** be mocked up for serious development; any idea what such testing would cost anybody? **The outcome would be significant either way perhaps very significant.**

Up too early Christmas morning... must go back upstairs and try to wake up my wife and persuade her that we need waffles or pancakes at this point in the proceedings. Have a good one.

Best,

JAS

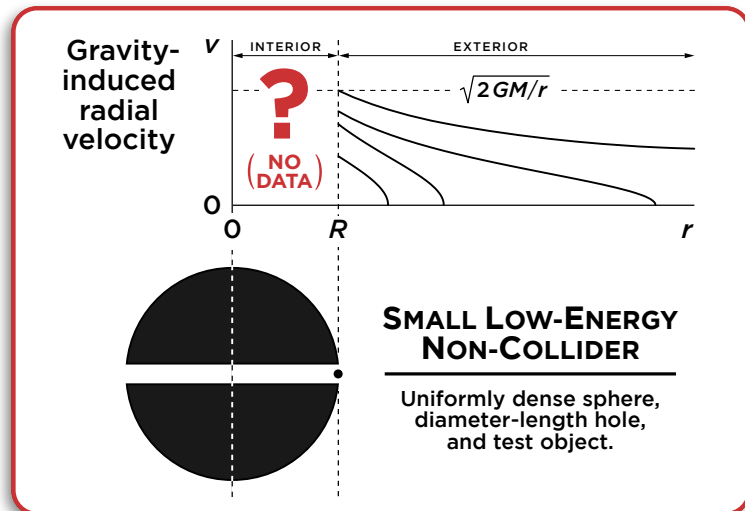
Just out of curiosity, you may like to try the following **experiment** in the sociology of physics.

→ **START**
BY ASKING

Q:

Can anyone in your local
PHYSICS DEPARTMENT

tell you where to **FIND the DATA** to complete the interior region of this graph concerning the basics of gravity?



YOU WILL FIND THE ANSWER TO BE

A:

NO, because the experiment needed to fill in the missing data has not yet been done.

THE OBVIOUS FOLLOW-UP QUESTION BECOMES

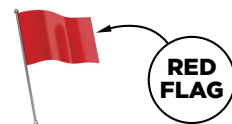
Q:

Why doesn't someone in the local Physics Department **DO** the experiment? That is, why don't they build and operate a Small Low-Energy Non-Collider?

STUDIES HAVE SHOWN THAT THE MAJORITY OF PHYSICISTS WILL RESPOND SOMETHING LIKE THIS

A:

"We already know how to complete the graph for this experiment without actually DOING the experiment."



AN APPROPRIATE RESPONSE WOULD BE

Q:

Isn't that **CHEATING** on the empirical ideals of science? Isn't **GUESSING** by extrapolation an unacceptable substitute for real physical data?

In the sequel, be especially alert for behavior that reflects: appeal to popular beliefs or authorities, evasion, condescension, arrogance, self-image, group-image, defensiveness, excuses about money, apathy, equivocation, and thinly-veiled embarrassment.

The rarest, and so far unobtained response, is that the queried physicist candidly **echoes your curiosity** about the physical question at hand.

What exactly happens to the falling test mass? If you get a response to the effect: *"Hey! Yeah, it looks like we've missed a spot. We've never actually OBSERVED what happens. Let's take care of that right away. Small Low-Energy Non-Collider... the sooner the better!"* then you'll have hit the jackpot. You may then celebrate with exuberant joy and anticipation at the prospect of at last filling a large outstanding gap in our empirical knowledge of gravity.

GOOD LUCK!

GravitationLab.com • rjbenish@comcast.net

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News May 2014

Thursday, 22 May 2014 05:51 John A. Schuster



John A. Schuster, *Descartes Agonistes: Physico-mathematics, Method and Mechanism 1618-1633*

(Springer, Dordrecht) xix + 631pp. + 69 figures, has appeared, See:

<http://www.springer.com/philosophy/history+of+science/book/978-94-007-4745-6>

Substantive Reviews:

John Henry, 'review of Descartes-Agonistes', *Intellectual History Review* 2013: 23:4, 586-589, DOI:10.1080/17496977.2013.846998

<http://dx.doi.org/10.1080/17496977.2013.846998>

Fokko Jan Dijksterhuis, 'Reworking Descartes' *mathesis universalis*', to appear in *Metascience*; published on-line 25 June 2014; DOI: 10.1007/s11016-014-9904-9

<http://link.springer.com/article/10.1007/s11016-014-9904-9#page-1>

Maria Rosa Massa Esteve, 'review of Descartes-Agonistes', *Zentralblatt MATH Database* 1931-2014; vol 1279.

<http://emis.mi.ras.ru/ZMATH/msc/en/search/zmath/?q=an:pre06112287&format=complete>

Or [Zbl 1279.01004](#)

The open access textbook on this site, "*The Scientific Revolution*" has been extensively revised for its translation into Chinese by Professor An Weifu and its publication by the Shanghai Scientific and Technical Educational Publishers. This has now appeared:

John A. Schuster [2013] 科学革命: 科学史与科学哲学导论. (上海科学技术出版社, 上海) 520pp. + 129 figures. ISBN 978-7-5428-5670-8 [*The Scientific Revolution: Introduction to the History & Philosophy of Science*. Trans. An Weifu (Shanghai Scientific and Technological Education Publishing, Shanghai)]

Anyone wishing access to any of the revised chapters in their English forms should contact me directly. The chapters on this site have not yet been updated.