

The hi-tech detection of Darwin's and Wallace's possible science fraud:

Big data criminology re-writes the history of contested discovery

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Abstract

Priority for discoveries is awarded to those who are first to publish. If a scholar writes claiming to have discovered something or originated a theory that has been earlier published, or presented in public by another who got their first, then the peer review process, professional and public disapproval is relied upon to identify and correct the self-serving irregularity. Thereafter, the pretender to the throne of discovery is expected to retract and apologise. If there is evidence that such a counterfeit originator had prior knowledge of their supposedly independent discovery being first discovered by another, the professional repercussions are likely to be catastrophic. This article is about the devastating Big Data facilitated 2014 discovery that the world's most celebrated and studied natural scientist Charles Darwin, and his lesser known associate Alfred Russel Wallace, more likely than not committed the world's greatest science fraud by apparently plagiarising the entire theory of natural selection from a book written by Patrick Matthew and then claiming to have had no prior-knowledge of it.

Key Words: science fraud; plagiarism; Darwin; Matthew

Introduction

Contested knowledge was a major theme of the 2014 British Society of Criminology Conference where this paper was first presented. Dealing with that topic as regards the discovery of the theory of natural selection, this paper reveals important new circumstantial evidence supporting the contention that it is now, arguably, more likely than not that both Charles Darwin (Darwin and Wallace, 1858; Darwin, 1859) and Alfred Wallace (Wallace, 1855; Darwin and Wallace, 1858) plagiarised the prior-published

discovery by Patrick Matthew (1831) and then seemingly lied when claiming no prior-knowledge of it.

Experts in the field (e.g. Darwin, 1860a; Wallace, 1879; Dempster, 1996; Hamilton, 2001, Wainwright, 2008; Dawkins, 2010) have written very clearly and forcefully that the first scientific discovery of natural selection and detailed description of its evolutionary biological process are all unquestionably Patrick Matthew's (1831) unique discovery and creation. Darwin himself agreed as much in print after April 7th 1860, when the *Gardener's Chronicle* published Matthew's letter (Matthew, 1860a) politely explaining that Darwin had simply replicated his prior-discovery of natural selection. On April 21st the *Chronicle* published Darwin's reply (Darwin, 1860a) accepting Matthew's complete priority of 28 years standing. However, in his detailed reply to Matthew's letter in the *Chronicle*, Darwin (1860a) unflinchingly claimed to have independently discovered natural selection for himself:

I freely acknowledge that Mr. Matthew has anticipated by many years the explanation which I have offered of the origin of species, under the name of natural selection. I think that no one will feel surprised that neither I, nor apparently any other naturalist, had heard of Mr. Matthew's views, considering how briefly they are given, and that they appeared in the appendix to a work on Naval Timber and Arboriculture. I can do no more than offer my apologies to Mr. Matthew for my entire ignorance of his publication. If another edition of my work is called for, I will insert a notice to the foregoing effect. (Darwin, 1860a: 362-363)

Doubly amazing, at the same time, Alfred Russel Wallace, a specimen collector and correspondent of Darwin, who was, incidentally, mentored by Darwin's best friend's father William Hooker, claimed also to have independently discovered the exact same process (Darwin and Wallace, 1858).

Consigning Matthew to a footnote in the history of scientific discovery

Having established in the *Gardener's Chronicle* his claim to priority, what followed, however, set the scene for all subsequent Darwinist victories in this particular field of contested knowledge about the history of the discovery of natural selection.

Matthew's claim to full priority for his prior-published discovery had been earlier rejected in February 1860 by the Dublin University Review. Most surprisingly, however, his same claim was ridiculed in its pages following Darwin's capitulation in the *Gardener's Chronicle* (Darwin, 1860a). This previously unremarked, and so presumably undiscovered, deed of dismissal by the scientific establishment was done by David

Anstead (1860), a lecturer for the East India Company, writing under his known penname DTA. Anstead, who was a fellow graduate of Cambridge, personal correspondent of Darwin, fellow member of the Royal Society, former Vice Secretary of the Geological Society - taking up office on Darwin's great friend Charles Lyell's departure - authored a paper on the subject of palaeontology where he fully supported Darwin's (1859) *Origin* and in a lengthy footnote replied on behalf of the magazine to blatantly refuse to accept that Matthew had written anything at all that was original. In effect, Anstead successfully labelled the lately acknowledged originator of natural selection theory as an unoriginal and pathetically delusional publicity seeking crank!

Anstead's successfully delivered knee-jerk dismissal of Matthew's importance, although never before cited, clearly runs contrary to current, considered, eminent expert Darwinist acknowledgments that Matthew did first and uniquely discover and fully explain the theory of natural selection (e.g. Dawkins, 2010), yet it still has many latter-day influential counterparts in the Darwinist literature (e.g. Shermer, 2002) and in expert Darwinist commentary in the popular press (e.g. Moore, cited in Knapton, 2014).

Why should criminologists be interested in questions surrounding the likelihood of historic science fraud of this or any other kind?

Detailed analysis of the specific question of Darwin's and Wallace's possible plagiarism of Matthew's prior published discovery has attracted the attention of only a small number of published scholars (Wells, 1973; Eiseley, 1979; Clarke, 1984; Dempster, 1996; Wainwright, 2008; 2011). In this article, newly discovered knowledge about who read Matthew's (1831) book is examined in order to shine more light upon this important, yet relatively neglected, question of science fraud within the wider field of contested knowledge.

That scientific organisations, such as major drug companies do commit criminal acts by falsifying results, and are at times falsely accused of doing so (Cohen, 2013), and that individual scientists are regularly detected to have falsified their results and other claimed discoveries (Weiner, 1955; Goldacre, 2008; Reich, 2009), means that science fraud, both old and new, proven and feared, is an important yet strangely neglected area in criminology. One way forward to tackle this problem and seek to ensure the public does not reject essential, and at times life-saving, scientific knowledge is to improve existing, and find new ways to detect and reduce the occurrence of all kinds of science fraud (Davis and Riske, 2002; Grant, 2007).

The evidenced willingness of researchers from all disciplines to practice such academic investigation, and publish their results about both modern and historic science fraud is important, therefore, in the on-going struggle to convince wider society that sound scholarship, as opposed to

conspiracy theory literature and other kinds of pseudo-scholarship, offers the best route towards the goal of dissemination of definitive veracity in the public domain.

Scientists and other academics who commit science fraud by falsifying or concealing important results, and those who plagiarise, are generally understood by criminologists to be white collar criminals (Payne, 2013). There are several recognised sub-types of science fraud within white collar crime. This article deals with the more subtle kind that involves the deliberate failure to cite work that should be given credit because it significantly influenced the fraudster's own (Martin, 1992).

Off the beaten track of criminology

The nineteenth century inventor of the telephone, Alexander Graham Bell is famous purportedly for coining a turn of phrase that later became the motto of Bell Labs (Reich, 2009: 16): 'Leave the beaten track occasionally and dive into the woods. Every time you do so you will be certain to find something that you have never seen before.' Bell's truism serves as a useful motto to remind criminologists that unpredictable rewards may come from looking outwards to explore new areas.

Citing case study evidence, Payne (2012: 205) informs us: 'Today plagiarism is often uncovered when computer-based text searching tools are used to search for it...' Although this is a strangely unexplored area, which is well off the beaten track of criminology, on it lies a promising new resource and associated tools for criminologists to undertake research of the published literature. Namely, the new technology of Internet facilitated Big Data analysis, defined as such because the data in question comprises 30+ million scanned and then uploaded publications in Google's revolutionary uncategorised and uncatalogued Web based, library project, together with a growing number of completely independently web site archived, collections of letters, diaries, notebooks and other documents and new ways of analysing them all simultaneously in the search engine called Google Chrome.

Notably, Google's Library and other documents uploaded to the internet are unlike any traditional collection, because to search within documents for specific text you do not need to know in advance the name of the author, the name of the publication, nor its date. Internet facilitated word and phrase search techniques alone will find for you, filtered by date of publication if you wish, any scanned document that is publically available on the entire Internet containing precisely specified words, terms and phrases anywhere on its pages. Obviously, in the case of searching for who might have cited Matthew's book, however, knowing Matthew's name and the title of the book in question was essential.

At its simplest, the newly available research method used to inform this paper involved searching Google Books to discover whether anyone - contrary to all existing prior-knowledge beliefs that no one read it (Darwin,

1860a) - had, in fact, cited Matthew's (1831) book in the literature pre 1858, which is the date when Darwin's and Wallace's papers on their purportedly mutually independent discoveries of the theory of natural selection were read before the Linnean Society (Darwin and Wallace, 1858).

Debunking the Darwinist rationale for denying Matthew full priority for his prior-published discovery of natural selection

The current Darwinist rationale for dismissing Matthew's importance (e.g. Wells, 1973; Mayr, 1982; Bowler, 1983; Dawkins, 2010) goes back to the beginning of the twentieth century when, for example, Judd (1909: 342) wrote that Matthew: '...anticipated the views of Darwin on Natural Selection, but without producing any real influence on the course of biological thought...'

This unique in the history of science, and specifically tailored to fit Matthew, priority denial argument is somewhat incongruous. For instance, Mendel undoubtedly made an important contribution in the field of genetics, even though he failed to develop his ideas and received no recognition in his lifetime after personally failing to convince anyone of the importance of his discovery. Similarly, if taking one's own original ideas forward is a necessary condition for priority over those who might replicate them then Fleming should not be considered the discoverer of penicillin, because it was Florey and Chain who discovered Fleming's obscure published comment on his discovery. And it was they, not Fleming, who took that discovery forward (Fletcher, 1984).

Since both Mendel and Fleming are proven to have influenced other important pioneers to make further discoveries, if we are to accept the legitimacy of the Darwinist's uniquely tailored to Matthew denial criteria then the only remaining question is that of Matthew's supposedly zero prior-influence on the work of other celebrated pioneers in the same field who are known to have influenced and facilitated the pre-1858 work of Darwin and Wallace on natural selection. Therefore, the key question we need to ask is: Are Darwinists right now if they continue to claim that Matthew failed to influence their namesake and Wallace? To answer that question we must analyze the extent and significance of the newly discovered facts.

The newly discovered facts

Big Data analysis uncovered a total of 25 individuals who cited Matthew's book pre-1858 (Sutton, 2014). The text of these authors was read to look for any mention of Matthew's prior discovery of natural selection. Next, to assess the likelihood of knowledge contamination from Matthew's work to that of Darwin's and Wallace's, each citing author was further investigated

to discover whether or not they were associated with Darwin and/or his 'inner-circle' of close friends. Web sites, such as the Darwin Correspondence Project, Darwin Online, and the Charles Darwin Library were searched also for any evidence that named authors newly discovered to have cited Matthew also associated with either Darwin or Wallace or their inner circle of scientific associates; and, if so, how.

The most important contribution that this paper makes over prior claims of the likelihood of Darwin's science fraud by plagiarism (Eiseley, 1979; Wainwright, 2008; 2011) is that it reveals the new discovery that instead of the pre-existing 'knowledge belief' that no naturalist read it, seven of the 25 people newly discovered to have cited Matthew's book pre-1858 were actually naturalists! Most importantly of all, three of those seven - Loudon (1832), Chambers (1832) and Selby (1842) - were well known to Darwin and Wallace and their inner circle of scientific associates, who knew them to be working on the problem of species (see Sutton, 2014), and also played major roles at the epicentre of influence and facilitation of the pre-1858 published ideas of Darwin and Wallace. Most tellingly, this newly discovered information completely disconfirms what Darwin (1860a) famously wrote: 'I think that no one will feel surprised that neither I, nor apparently any other naturalist, had heard of Mr Matthew's views...'

It is important to emphasise at this juncture that before Sutton (2014), it is a little known fact that prior knowledge did exist (Dempster, 1996), although it is seldom discussed, that the naturalist and polymath publisher John Loudon both reviewed and cited Matthew's (1831) book pre-1858. It should be stressed, however, that until Sutton (2014), none appear to have spotted that Loudon (1832) actually used the term 'origin of species' in referring to Matthew's original discovery, which later became the essential component of the title of Darwin's (1859) famous book.

One of the subjects discussed in this appendix is the puzzling one, of the origin of species and varieties; and if the author has hereon originated no original views (and of this we are far from certain), he has certainly exhibited his own in an original manner (Loudon, 1832: 702-703).

Furthermore, none appear to have noticed that Loudon then went on to edit and publish Blyth's highly influential papers of 1835 and 1837 on species variety and organic evolution. This second fact is most significant, because Eiseley and Grote (1959) and Eiseley (1979) reveal the great influence these two Blyth papers had on Darwin's pre-1858 ideas about natural selection.

Darwin knew Blyth very well and from the third edition of the *Origin of Species* onwards, he (Darwin, 1861) fully admitted that Blyth was his most helpful and prolific informant on the subject of species as it related to organic evolution.

The 'gentleman geologist' and publisher Robert Chambers (1832), it is newly discovered, cited Matthew's book before anonymously authoring

the best-selling, heretical, 'Vestiges of Creation'. Chambers's (1844) *Vestiges of Creation* is the book attributed (Millhauser, 1959) with putting 'evolution in the air' in the mid-nineteenth century. Moreover, both Darwin and Wallace admitted the *Vestiges* was an important influence upon their pre-1860 work in the field of natural selection and in preparing the minds of the general public to accept their ideas on natural selection within the wider field of evolution theory. Many suspected, but only after his death in 1871 did his friends and family admit that Chambers had authored the heretical *Vestiges*.

The naturalist, artist, and landowner Selby (1842), it is also newly discovered, cited Matthew's book many times and then went on to edit and publish the journal containing Wallace's (1855) Sarawak paper, which laid down what needed to be done to confirm the hypothesis of natural selection. Darwin read that paper and corresponded with Wallace about it. Darwin and Wallace (1858) and Darwin (1859) then produced a multitude of confirmatory evidence for Matthew's hypothesis.

Selby had considerable professional involvement with Darwin's best friends and mentors (see Sutton, 2014): Lyell; Joseph Hooker; William Hooker; Huxley and Strickland. Given that Darwin's father was a guest at Selby's house, and the fact that Selby and Darwin enjoyed mutual membership of several scientific committees, it seems highly unlikely they never met or corresponded. Yet amongst what survives of Darwin's correspondence, much of which is missing, and in his torn-apart and much erased notes and in his journals, there is no record of them ever meeting or corresponding. This is rather curious, because Darwin was famously most curious about breeds of domestic pigeon (Darwin, 1859; Desmond and Moore, 1991) and wild doves; and Selby was a leading authority on that very topic. Similarly, all correspondence that Wallace had with Selby's scholarly journal - *The Annals and Magazine of Natural History* - any notes he may have made or letters he wrote about who edited and handled the publication of his Sarawak paper for that journal - are absent from his archive.

Of course, absence of evidence is not evidence of a conspiracy to hide it. Such thinking is irrational. But neither is it rational to believe that absence of evidence from the Darwin and Wallace archives is reliable evidence that either man did not know something, did not correspond with or did not meet any particular person not mentioned in what remains in those archives. In short, absence of evidence is not evidence of absence in such cases. For example, the Darwin archive, in particular, is known to be far from complete and contains only what Darwin, his family and his friends chose to leave for the public to see. Any Darwinist proposing that Darwin was unaware of Matthew's prior published theory, because he never wrote about it in his private notebooks or correspondence, would be relying on an irrational premise.

Understanding the significance of the newly discovered data about who did read Matthew's book before 1858

The research that led to the important discovery that others well known to Darwin and Wallace read Matthew's prior-discovery of natural selection before 1858 began with a minor discovery on March 5th 2013, when analysis of the scanned documents in Google's Library Project uniquely revealed that, contrary to prior knowledge beliefs, Darwin never coined the term 'natural selection' although many scholarly books claim he did (e.g. Thagard, 1992; Otto, 2011; Lau, 2012). The precise term, albeit with different meaning, was used by William Preston (1803) six years before Darwin was born. The next person discoverable to have used the same term was Francis Corbaux (1829)¹, Darwin's fellow member of the Royal Society, who used it in a vaguely bio-social context in an essay on actuarial science. At least two others were discovered to have used the exact term 'natural selection' before Darwin (1858), but neither employed it in a biological sense (Sutton, 2014).

Patrick Matthew (1831) was apparently next to use the term, after Corbaux, albeit in an extended form, when he wrote of 'the natural process of selection' to name his hypothesis for the exact same mechanism for organic evolution that Darwin and Wallace replicated in 1858. Most tellingly, research in Google's Library Project of 30+ million publications reveals that 'natural process of selection' is a term apparently coined by Matthew (1831) that was uniquely four word shuffled into the only grammatically correct alternative 'process of natural selection' by Darwin (1860a).

The notion that Darwin could have, independently of Matthew's prior published discovery, replicated both his exact same complex hypothesis, highly idiosyncratic examples to explain it (see Sutton, 2014), and then adopted the same four words to name it, surely beggars rational belief.

Darwin's apparent lies about Matthew's prior discovery

In the *Gardener's Chronicle*, Matthew (1860b) replied to Darwin's (1860a) capitulation letter. He did so on the 12 May:

The Origin of Species, - I notice your Number of April 21 Mr. Darwin's letter honourably acknowledging my prior claim relative to the origin of species. I have not the least doubt that, in publishing his late work, he believed he was the first discoverer of this law of nature. He is however wrong in thinking that no naturalist was aware of the prior discovery...

¹ Although detected independently, Professor Milton Wainwright discovered Corbaux's use of the term first and published his finding on the website <http://wainwrightscience.blogspot.co.uk/>

Mathew went on to explain in his same letter of reply that the famous naturalist, publisher and garden designer John Loudon had reviewed his book in the press. That Matthew (1860b) informed Darwin that Loudon had read his book, commented upon it and reviewed it, means that Darwin seemingly lied when he wrote in the third edition of the *Origin of Species* (Darwin, 1861), and in every edition thereafter, that Matthew's ideas had passed unnoticed until he brought them to Darwin's personal attention in 1860. (Darwin 1861: xv-xvi):

Unfortunately the view was given by Mr Matthew very briefly in scattered pages in an Appendix to a work on a different subject, so that it remained unnoticed until Mr Matthew himself drew attention to it in the *Gardener's Chronicle*...

Moreover, on the subject of that same apparent lie published in the *Origin of Species* (Darwin, 1861) that Matthew's book had gone unnoticed, Darwin knew that Loudon was not the only scholar who had read Matthew's heretical ideas, because Matthew (1860b) had, in the *Gardener's Chronicle*, informed him of others besides:

I had occasion some 15 years ago to be conversing with a naturalist, a professor of a celebrated university, and he told me he had been reading my work "Naval Timber," but that he could not bring such views before his class or uphold them publicly from fear of the cutty-stool, a sort of pillory punishment...

In that same letter, Matthew then went on to explain that the age was not ready for his heretical bombshell discovery:

It was not least in part this spirit of resistance to scientific doctrine that caused my work to be voted unfit for the fair city [Perth in Scotland] itself.

What makes Darwin's (1861) falsehood all the more audacious is the fact that he knew also that Matthew's ideas were not merely contained in an appendix, nor briefly scattered. Because Matthew (1860) published large passages of text, cited as coming from his book - a great deal of which came from the main body of the book - in his letter in the *Gardener's Chronicle*. And Darwin knew that because he purchased a copy of Matthew's book, read it before replying to Matthew's letter, and wrote as much about those same passages, although somewhat cryptically, to Joseph Hooker (Darwin 1860b):

The case in *G. Chronicle* seems a little stronger than in Mr. Matthews [sic] book, for the passages are therein scattered in 3 places. But it would be mere hair-splitting to notice that.

It seems that perhaps Darwin thought telling the truth about what he knew about who read Matthew's book, what was in it, and how it was organised, would be mere 'hair splitting' where it came to the question of how to best defeat Matthew's due priority (Merton, 1957) for having written it and published it first.

Darwin's biographer, Clarke, was convinced that Darwin must have read Matthew's (1831) book:

Only the transparent honesty of Darwin's character, which shines out so brightly from the archives, makes it possible to believe that by the 1850s he had no recollection of Matthew's work. (Clarke 1984: 130-131).

But Clarke was clearly wrong about Darwin being an honest character.

Is it more likely than not that Darwin and Wallace each deliberately plagiarised Matthew's discovery?

Surely only two possibilities can account for Darwin using the same four words to name his supposedly independent discovery that Mathew had chosen years earlier: (1) Darwin had read and then fraudulently four-word-shuffled Matthew's term, or else (2) a miraculous quadruple concurrence occurred, whereby he:

1. Independently discovered Matthew's exclusive discovery of the complex theory of the 'natural process of selection' after it appeared in print.
2. Independently chose the exact same four words that Matthew used to name the same process.
3. Independently alighted upon the exact same concepts and examples to explain it.
4. He did all three of the above because those he knew well as correspondents, scientific organisation and mutual committee members, who had read Matthew's ideas, namely Chambers and Selby, who influenced his thinking on the same topic, and who knew he was working on the problem of species, failed to tell him about the one book in the world he really needed to read.

19th Century platform blocking in the realm of contested knowledge

Moving on, 36 years after Matthew's acknowledged discovery of the natural process of selection, the British Association, which was then meeting in Dundee on September 4th 1867 for its annual conference, was responsible for one of the most shameful examples of scholarly platform blocking in the history of modern science.

Matthew at the age of 77 years wanted to give a paper at the conference on his discovery of natural selection. We learn by way of his letter of complaint published in the Dundee Advertiser (Matthew, 1867) that he was thwarted.

Matthew wrote of his outrage that his paper, which had been placed last on the programme, was seemingly blocked on the spurious grounds that there was insufficient time for him to read it. Although the British Association never did publish his paper it should perhaps not pass unremarked that papers from the conference, which did end up in print, were published by John Murray of London (British Association, 1868) the very same publishing house of Darwin's *Origin of Species* no less!

Conclusions

For the purposes of going further than merely proving priority, in order to argue a case for science fraud, within the word limits of this article, it has been sufficient here to establish that Matthew more likely than not did influence both Darwin and Wallace via the natural scientists Loudon, Chamber's and Selby. The criminological premise here being that because those influencers were so closely connected to Darwin and Wallace's circle of scientific associates it would be beyond the bounds of rational belief to accept none had noticed in Matthew's book the significance of what Matthew had written that Darwin and Wallace should otherwise see, or that there had been a 'keep it from Darwin and Wallace' conspiracy not to inform them of the one book they most needed to read above all others.

Darwin and Wallace most likely committed science fraud when they claimed no-prior knowledge of Matthew's discovery and ideas. This conclusion is reached by weighing the facts presented in this paper along with others published elsewhere (Sutton, 2014) of six apparent lies that Darwin told to achieve primacy over Matthew and of both Darwin's and Wallace's replication of unique terms, concepts and explanatory examples.

Arguably, the empire of evolutionary biology's colonization of knowledge in the area of the history of the discovery of natural selection is not fit for scholarly purpose when it comes to the story of Matthew, Darwin and Wallace. Abiding by the science principle of *nullius in verba*, the Darwinist claim that Matthew's book went unread by anyone of any importance, and was unread by naturalists known to Darwin and Wallace, is now completely disproved by the Information Age technological progress of Big Data analysis, which provides us with new, independently verifiable facts about who did read Matthew's book.

A most telling question is now raised by the newly discovered data about who did read Matthew's prior-published discovery of natural selection, who also knew Darwin and Wallace. Namely, are we to now accept that it is no more than an incredible tri-coincidence, improbable beyond rational belief, that three out of only seven naturalists now known to have cited Matthew's book played such major roles at the epicentre of

influence and facilitation of Wallace's and Darwin's pre-1858 work on natural selection?

If there are no such things as miracles, and if it was not merely an exceptional concurrency, then the newly discovered facts about who did read Matthew's book debunk Darwinist mythical explanations for why Darwin's and Wallace's otherwise immaculate and mutually independent conceptions of the prior-published theory of natural selection were neither miraculous nor merely an exceptional coincidence.

The criminological discovery of Darwin's most probable science fraud is, arguably, quite an important finding of disconfirming evidence for the established history of scientific discovery, because the theory of natural selection that is attributed to him is widely recognised as one of the most important scientific discoveries of all time.

In terms of what happens next, we should note that in areas of contested knowledge powerful interests rarely decolonise existing knowledge-niches, at least not without a fight (Connell, 2014). Therefore, within the natural sciences dominated scientific and associated publishing 'Darwin industries' it is unlikely that the lone voice of a criminologist, seriously contesting such an important chapter in the history of natural science, will be given readily a publication platform by those purporting, and considered, to be experts in the area, who are named after the very scientist whose reputation is being challenged with new data. The way forward, for presenting such contested knowledge, initially at least, is likely to be in less partial scholarly journals of social science such as this one. After all, it is perhaps too much to expect that those self-identifying as Darwinists can objectively weigh the new evidence for their own journals and books that they are named after the wrong scientists only because their namesake more likely than not committed the world's greatest science fraud and then apparently lied to conceal it.

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