



New Zealand Skeptic

Number 119 Winter 2017

Skeptics at Scientology HQ

**Steffan Browning and the
Green Party**

**What do we mean by
marriage?**

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Musings on theatre and superstition

As I sit here with my laptop in my home office reflecting on the past few months and the time that has passed since my last editorial I am stunned at how much time has flown over the past year! I am happy to announce that I have now completed my undergraduate studies at Victoria University, with my Bachelor of Arts with a double major in English Literature and Religious Studies. Does that make me a theologian as well as ESOL (English speakers of other languages)

Thespians by ensuring we have one night off per week with the theatre left empty and leaving a ghost light on the stage all night...

"The superstitious have various justifications for the ghost light in relation to the supernatural. A popular theatrical superstition holds that every theater has a ghost, and some theaters have traditions to appease

I follow the laws of the theatre with following a variety of theatre superstitions such as avoiding saying the name of the Scottish Play in a theatre

teacher and theatre practitioner?

I am currently preparing for the shift into the workforce as well as graduating in May. For some in Wellington who know me well, they know that my degree has been a long time coming and my life has changed a lot over the seven year period. The changes I have noticed in my own life are pretty significant, including the happy news of an upcoming hitching of two of our own committee members - Daniel Ryan and I on a stage this coming September!

Speaking of the stage I have been watching and working at a lot of theatre in Wellington, including the amazing season that has recently wrapped up of Summer Shakespeare Wellington's wheely good version of *All's Well That Ends Well*. After working with Summer Shakespeare Wellington over the past three summers I have been left wondering how I can be so skeptically minded of those who claim to have powers like psychics and I especially question *Sensing Murder* as a TV show... yet put me into a theatre and I follow the laws of the theatre with following a variety of theatre superstitions such as avoiding saying the name of the Scottish Play in a theatre, watching out of the ghost of

ghosts that reach far back into their history. Similar superstitions hold that ghost lights provide opportunities for ghosts to perform onstage, thus appeasing them and preventing them from cursing the theater or sabotaging the set or production. This is also used to explain the traditional one day a week that theaters are closed."

[https://en.wikipedia.org/wiki/Ghost_light_\(theatre\)](https://en.wikipedia.org/wiki/Ghost_light_(theatre))

What happened to the journal?

No doubt you've noticed the lack of NZ Skeptic journals over the past year. Unfortunately our previous editor had to step down because of other commitments.

We have managed to pull this issue together, very late, but we are actively looking for a new editor who would be willing to take the role on, with help and support from the committee.

Know anyone? Please get in touch!

2016 Skeptic of the year



Dr Siouxsie Wiles

Recipient of the NZ Skeptics Denis Dutton Award

By Steven Galbraith

Siouxsie is frequently to be found blogging or on the TV or radio, explaining in a down-to-earth manner current developments in science, or why she is skeptical of certain claims whenever they appear in the media. In 2016 alone she took on MPs, anti-vaxxers and Mike Hosking, as well as tackling topics such as e-cigarettes and the Zika virus. She regularly appears in the "Skeptical Thoughts" radio slot

the University and fell in love with the city at once, so decided that was the place for her to be. Her fascination with infectious diseases was kindled during these years. In Edinburgh she supported herself by working in pubs, both at the bar and in the kitchen. She cannot confirm or deny whether she ever deep-fried a Mars bar.

Steven, looking for ways to meet new people, happened to find out about Skeptics in the Pub and so they went along.

with Graeme Hill on Radio Live, and she also has a fortnightly slot on Radio New Zealand's "Nine to Noon" show, talking about science. She was nominated for the Denis Dutton award in recognition of her outstanding communication skills and sustained efforts to demonstrate critical thinking, skepticism and the scientific method.

Siouxsie was born in the UK, and then lived for about 10 years in South Africa. Her family returned to the UK in her mid-teens and she completed her schooling in Hull, Yorkshire. She studied for a BSc(Hons) in Medical Microbiology at the University of Edinburgh in Scotland. She went to Edinburgh for an open day at

After completing her undergraduate degree in 1997 she immediately began her PhD study at Napier University (also in Edinburgh) on a topic in environmental microbiology (using microbes as pollution sensors for industrial waste). This research project began with a secondment to a lab in Oxford, where she ended up staying for her entire PhD project. She submitted her PhD thesis in 2001, a little after starting a post-doctoral research position on Tuberculosis at Imperial College London. She then got a lecturing position at Imperial and became settled in London, working on a range of topics in infectious disease.

In 2009 she was awarded a Sir Charles Hercus Fellowship from the Health Research Council of New Zealand and moved with her family to the University of Auckland. Her husband Steven, looking for ways to meet new people, happened to find out about Skeptics in the Pub and so they went along. This was the beginning of their interest in skepticism. Several pivotal events occurred around this time. Dr Ben Albert (also a regular at Auckland Skeptics in the Pub) gave Siouxsie the book "Trick or Treatment" by Simon Singh

The Denis Dutton Award for Skeptic of the year is given to the skeptic who has had the most impact within New Zealand skepticism.

The award comes with a year's free membership to the NZ Skeptics, a certificate, and \$100 of prize money.

and Edzard Ernst. In particular, this book challenges scientists to devote more attention to publicly challenging pseudoscience. For Siouxsie this was a rallying cry that she embraced with vigour. Then in 2010 she met Peter Griffin at the Skeptics Conference in Auckland (where Siouxsie gave a talk about the MMR bad science story). Peter encouraged her to write a blog for the Science Media Center site SciBlogs. Her blog "Infectious Thoughts" covers a wide range of scientific and skeptical topics. Her two most read blog posts of all time are about the "1Above" drink sold at airports (which is claimed to naturally support the body against the impact of jet lag), and about a tattoo removal cream scam.

some of her more recent projects -

She spent the first 2 months of 2017 writing a book about infectious diseases and antibiotic resistance. This will be published soon in the BWB Texts series of Bridget Williams Books. Over the last few months she has been working with SciFilms and Damien Christie to produce a web series for kids about microbiology that is presented by Siouxsie's 10 year old daughter.

In terms of research, she has an ongoing project on evolution of microbes (in particular, a relative of the food-poisoning *E. coli*).

Visit <http://www.superbugslab.org> for more details of her

She is also crowdfunding a research project to test NZ fungi for antibiotic/antimicrobial properties.

In the following years she honed her skills in science communication, particularly through blogging and talks at Skeptics in the Pub, Nerdnite, and the NZ Skeptics Conference. Her first TV appearance was on Close Up (with Mike Hosking standing in for Mark Sainsbury on that particular occasion) to give expert opinion on the outbreak of *E. coli* in salad in Germany (she had worked on *E. coli* at Imperial). Subsequently she developed a good relationship with a number of journalists in NZ, and this has led to further communication opportunities in print media, radio and TV. She also became in-demand as a speaker for various societies and organisations, such as U3A, Rotary, Lions, etc and more recently has been asked by several schools and higher education colleges to give graduation speeches. She gave TEDx talks in Christchurch in 2014 and Auckland in 2015. She was invited to give talks and perform hands-on activities at Australian Science Week in 2014, 2015 and 2016, and the World Science Festival in Brisbane in 2016.

In recognition of her science communication she was awarded the New Zealand Association of Scientists (NZAS) Science Communication Award in 2012 and both the Prime Minister's Science Media Communication Prize and Royal Society Of New Zealand's Callaghan Medal in 2013.

We caught up with Siouxsie to ask about

lab and research projects. She is also crowdfunding a research project to test NZ fungi for antibiotic/antimicrobial properties.

Visit <https://www.giving.auckland.ac.nz/en/FundPages/new-medicines-to-kill-superbugs-fund.html> for details, and to donate if you wish.

Her service roles include being on the Council of the Royal Society of New Zealand. Her focus on this committee is issues around diversity in science.

As this brief summary indicates, Siouxsie has been working tirelessly to advance Science, Science Communication, and Skepticism in NZ. □





IHEU General Assembly NZ

The International Humanist and Ethical Union will hold a general assembly in New Zealand, 3 – 6th August 2018.

Several years ago the Humanist Council considered hosting an IHEU World Congress in Wellington as we have a magnificent Conference area with Te Papa, and the Michael Fowler Centre set so near the Wellington Waterfront. We could visualise socialising during a moonlit evening during March or April.

If anyone would like to join the planning group please contact Gaylene 021 155 7084 . □

We have had initial planning meetings and a General Assembly plus Travel concept has emerged. We are inviting NZ humanists, rationalists and sceptics to join us.

However costing was beyond our means and we had to abandon this dream. We understand and sympathise with Sao Paulo Humanists in their decision to abandon their World Congress dream.

However the annual IHEU General Assembly is more achievable. Furthermore, there have been informal requests from IHEU and BHA members to host a General Assembly in NZ. A date is set 3-6 AUGUST 2018!

We have had initial planning meetings and a General Assembly plus Travel concept has emerged. We are inviting NZ humanists, rationalists and sceptics to join us. There will be opening sessions in Auckland followed by a road trip down to closing sessions in Wellington.

The road trip can take differing routes to include locations of different appeal to our visitors. We would be pleased to hear of places of interest that are off the beaten track to make our road trip one 'with a difference'. Please join us as we make our way south. There is always the option for further travel down the South Island if our visitors would like to continue.

The decision for August was requested by the IHEU as it is the holiday period in the Northern Hemisphere.

Letters to the Forum

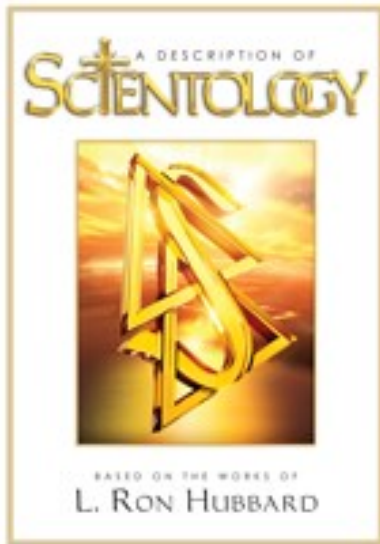
Have something to say?

Loving or hating the new Journal format?

Want to write a letter to the Editor?

Letters sent may not be published and may be edited before publication due to length.

Email the Editor at editor@skeptics.nz



Skeptics at opening of Scientology HQ

The NZ Scientology Headquarters opened to much fanfare in Auckland. Three local skeptics go along for the experience.

By Craig Shearer. Craig is Secretary of NZ Skeptics.

Saturday 21st January was the opening of the new NZ Headquarters of the Church of Scientology, and with NZ Skeptics Chairperson Mark Honeychurch in town on business I decided to join him and Auckland-based skeptic Robin Capper for the event.



Given the Church of Scientology's reputation, we were a little worried about being identified and prevented

Mark had attempted to join the closed Facebook group "Spiritual Awareness New Zealand" (recently renamed from "Weather Modification Watch") but had been blocked.

from attending. Mark had attempted to join the closed Facebook group "Spiritual Awareness New Zealand" (recently renamed from "Weather Modification Watch") but had been blocked. Group leader Nigel Anthony Gray (made infamous by claiming to have predicted the Kaikoura earthquake) had set up a Facebook event which he claimed you had to RSVP for in

order to attend the ceremony. As it turned out this claim was as delusional as his claims of being able to predict earthquakes, and fortunately we didn't actually experience any problem in getting in - despite not being able to RSVP. I decided to dress up in a suit and tie, thinking maybe I could "blend in" with the believers and gain some inside knowledge!

The new headquarters is an historic building in Grafton, near the University of Auckland - what used to be the Whitecliffe College of Arts & Design. The church purchased the building in 2007 for \$10M, and has reportedly spent \$6M refurbishing it. It truly is a magnificent building!

Mark, Robin and I arrived by car at the site and were told that the parking area was full, but we could park a little farther up the road at the Wilson Car park which had been made free for the rest of the day - paid for by the church for the event. This was the first inkling of the no-expense-spared approach they'd taken for the day.

Walking towards the building we encountered a TV crew from the *Jono and Ben* show on TV3. It seemed that they were preparing to pretend to have Tom Cruise with them in an attempt to infiltrate the event - all for laughs, I'm sure.

Arriving at the venue we had to register and provide our name, address, email and other details. It was with

some trepidation that I provided this information – it will be interesting to see what it's used for in the future. Anyway, once we'd registered we were issued with a commemorative silicone wristband and ushered in to join a pretty large crowd. The whole event was well set up with multiple broadcast TV cameras, some mounted on boom arms allowing them to swing over the audience, and a large PA system and lighting – certainly high production values. We positioned ourselves on the steps to the side of the main body of the audience. It was literally standing-room-only by the time we arrived.

Scientology offers a multitude of courses designed to improve one's life, with a goal of becoming "clear" – reaching "The Bridge to Total Freedom". This is reputed to take a long time, and cost a lot of money.

The audience was pretty well dressed. The Scientology staff seemed to be wearing black suits with white beading and various pins and badges attached. My naïve assumption about being able to blend in just by wearing a suit was thus disproved!

The ceremony got started at 2pm on the dot. The MC was a young American woman, effusively enthusiastic. She reminded me of some over-the-top Disneyland host, but she seemed to be well-received by the crowd.

First up was a Pōwhiri complete with singing and Maori costume, followed by a rousing song titled "Team New Zealand".

With the song done, three prominent locals were introduced and gave speeches. The first was an architect (a lecturer in architecture from the University of Auckland, I believe) who praised the restoration of the building. The second was a retired member of the NZ Police who praised the church's work with their related Citizen's Coalition for Human Rights organisation. The third was a woman who was a Maori Warden who praised the church's work in drug addiction. Overall I felt that the three speakers were enthusiastic supporters of the church, and had a positive message to present - although they were worryingly uncritical of the church's approach (e.g. shunning psychiatry).

With local speakers out of the way, things really changed with the arrival of David Miscavige – announced as chairman of the "Religious Technology

Centre". Miscavige's speech was full of jargon and scientology buzzwords – seemingly normal English language words used in slightly odd ways. Then there were plenty of acronyms which would have been difficult to decipher for members of the general public. Luckily I'd listened to the excellent series of Oh No Ross and Carrie podcasts which documented their experience of scientology, so I was able to understand some of what was being referred to.

Scientology offers a multitude of courses designed to improve one's life, with a goal of becoming "clear" –

reaching "The Bridge to Total Freedom". This is reputed to take a long time, and cost a lot of money. Miscavige claimed that there was now a fast track approach and you could become "clear" in under a year!

Miscavige then went on to call out various members of the local and Australian organisations for their work. All of this was enthusiastically received by the crowd, with many standing ovations. It was certainly testament to how much of the audience were "true believers".

The ceremony ended around 3pm with everybody invited to walk through and explore the building – an opportunity we were keen to take up.

There was also lots of food available – the event was extravagantly catered!

But, before entering the building we talked to a couple who were standing near us. They were invited in a mass mail-out by their local GP, a Scientologist, to attend – a seeming breach of privacy in using their information for an unrelated purpose. Initially suspicious of us, they were relieved to discover that we were from the NZ Skeptics and weren't true believers.

Mark also scanned the audience trying to locate Nigel Anthony Gray so we could have a chat with him, but to no avail.

We then entered the building, along with many other

of the attendees.

The building is structured in an L-shape with two separate wings, and three floors. The Church of Scientology refer to their organisations with their own jargon – this being an “Ideal Org” – or Ideal Scientology Organisation, as described by L. Ron Hubbard. To be an Ideal Org, the building must meet certain standards –

These units are dressed up to look high tech, but the E-Meter is a fairly simple device which basically measures changes in skin resistance and displays this with a needle.

mainly the size of the building and the space available for offices and seminar rooms.

The whole place feels to have been lavishly appointed. I had the sense of being in a parallel universe. The walls are covered with promotional posters, all elaborately framed. There are special embossed wooden plaques on all the doors, exquisitely painted. There’s even an organisation chart showing the structure of the Australasian organisation – with lots of roles to fill!

It is interesting to note the size of the organisation in New Zealand. The 2006 census recorded just 357 people being affiliated with Scientology. By the 2013 census that number dropped to 315 people. Given their small numbers it is difficult to see how they justify such lavish premises.

We explored the building and moved upstairs. There are numerous rooms filled with desks and Scientolo-

gy’s famous electronic devices: the E-Meters (or electro-psychometer). The E-Meter consists of a console with various knobs and buttons and a large analogue meter. The person being audited holds a pair of “cans” – one in each hand – while being asked questions.

These units are dressed up to look high tech, but the E-Meter is a fairly simple device which basically

measures changes in skin resistance and displays this with a needle. The original circuit was just a Whetstone Bridge, and has since been “upgraded” by adding a digital display driven by a microprocessor, capable of counting the number of movements of the needle.

Mark and I sat down and played with the meter – interestingly the movement of the needle is very much affected by the amount of pressure applied to the cans. This leads me to believe that there is a lot of subjective interpretation of the reaction to questions.

The actual process of auditing with the E-Meter involves the person being “audited”, known as the “preclear” (PC), and the auditor. The auditor asks about emotional experiences from the preclear’s past and notes the reaction of the needle on the E-Meter. Such sessions could obviously result in some traumatic “reliving” of experiences. I would be worried about the potential negative effects of having essentially amateur counsellors probing into my past.

While in the room we encountered an older gentleman who was over from Australia. We had quite a discussion with him about the use of the E-Meter, and Scientology in general. He said that he’d been in Scientology for about five years but was still working on the lower levels of the process of becoming “clear”.

Our new friend clearly had a reverence for the E-Meter, claiming he could detect whether the preclear had been taking drugs (legal or illegal). These meters reportedly cost around \$7,500, but estimates found online for the likely cost of the units for manufacture, even in small volumes, is under \$300.



There was a chart on the wall of the room which showed all of the various levels that one could attain in Scientology, known as the Bridge. He said that his partner was up beyond the level of being “clear” – at the OT V (Operating Thetan Five) level, but had recently moved back to OT I and had to retrain. We en-

revealed during the auditing process. It is rumoured that this could then be used against the member should they decide to leave.

In conclusion, attending the opening gave us a rare glimpse into the operation of the Church of Scientolo-

We enquired where the leader, David Miscavige, would be on the Bridge, and he stated he’d be at OT VIII - this would have given Miscavige the ability to perform “astral projection”, allowing his spirit to leave his body.

quired where the leader, David Miscavige, would be on the Bridge, and he stated he’d be at OT VIII - this would have given Miscavige the ability to perform “astral projection”, allowing his spirit to leave his body. We joked with him that this would allow Miscavige to “pop home” to America while he was still here, and he agreed that he would be able to do that -

gy, probably more in-depth than would be possible by simply turning up as a random member of the public.

The location of the building is far enough out of the Auckland CBD that it would require a special trip to be made to visit, although it is worryingly close to the University of Auckland.

According to Scientology, LRH isn’t dead - his spirit is still alive, and they’re awaiting his return.

while noting that this wouldn’t be believed by non-scientology people.

After leaving the room we found other fascinating areas, including a room that was set up as a gym with treadmills and a sauna - which was to be used for the “purification rundown”.

We also saw L. Ron Hubbard’s office, especially set up awaiting his return. According to Scientology, LRH isn’t dead - his spirit is still alive, and they’re awaiting his return. All “Orgs” have an empty office for LRH, so they’re prepared for his return.

We also caught a glimpse of a room full of files – though weren’t allowed access to this area. It is known that Scientology keeps dossiers on their members, recording events and experiences of a personal nature that are

It would be an interesting experience for a skeptic to visit, though perhaps one would be best warned by the experience of others before revealing personal information! ☐



A Better Life:

An exploration of joy and meaning in a world without God

By Lisa Taylor. Lisa is the journal editor and Diversity Office on the committee.

Last year on September 27th Daniel Ryan, Mark Honeychurch and I along with a number of other Wellington skeptics went along to the NZ Association of Rationalists and Humanists evening where the documentary “A Better Life: An Exploration of Joy & Meaning in a World Without God” was screened at Penthouse Cinema in Brooklyn, Wellington. The documentary created by filmmaker Chris Johnson was an excellent speaker and really informative about the work he is creating. The documentary interviewed a variety of people from all over the world about their beliefs and how those without religion face the world we live in. As a student Theologist at the time of watching this documentary my own thoughts and perceptions of the world were changed by watching this documentary through the vivid imagery as well as poignant quotes from those interviewed.

Chris also completed a book which is carefully intertwined with the documentary which is also available on his website ‘The Atheist Book’ and although I am yet to read it myself, the excerpts from it look stunning. His photographs along with eloquence with language really shows through in the documentary.

From the advertisement advertising the screening sent out by the NZARH:

“There is no God. Now what? If this is the only life we have, how does that affect how we live our lives, how we treat each other, and cope with death. In this fascinating documentary, join filmmaker Chris Johnson as he introduces us to people from all walks of life and backgrounds who challenge the false stereotypes of atheists as immoral and evil. From Daniel Dennett and A.C. Grayling, to Julia Sweeney and Robert Llewellyn – learn the various ways many atheists have left religion to a better life filled with love, compassion, hope,

and wonder.”

People interviewed and found in The Atheist book include:

- A.C. Grayling, Philosopher
- Cara Santa Maria, Television personality
- Carol Blue & (the late) Christopher Hitchens
- Daniel Dennett, Philosopher and cognitive scientist
- Derren Brown, British illusionist
- James Randi, Magician
- James Watson, Molecular biologist/co-discoverer of the structure of DNA
- Jim Al-Khalili, Professor of physics, author and broadcaster
- Lawrence M. Krauss, Physicist
- Michael Shermer, Founder/Publisher of Skeptic magazine
- Penn & Teller, magicians
- Richard Dawkins, Evolutionary biologist, and author
- Sean Carroll, Theoretical Physicist
- Steven Pinker, Cognitive scientist

...and many, many more!

<https://www.theatheistbook.com>

<https://www.theatheistbook.com/products/a-better-life-an-exploration-of-joy-meaning-in-a-world-without-god> □



Steffan Browning and the Green Party

By Mark Hanna.

Mark is Chair of the Society for Science-based Healthcare (SBH).

Steffan Browning will leave his role as an MP next year, which is a great opportunity for the Green Party to ditch their anti-science baggage.

I have a love-hate relationship with the Green Party. I love their social policies, but as someone who dedicates a lot of my time to fighting pseudoscience I have a hard time justifying support for a political party with anti-science tendencies.

Green MP Steffan Browning went and endorsed homeopathy as a treatment for Ebola.

In the lead up to the 2014 general election, when I was considering where I would place my party vote, I emailed the Greens' then health spokesperson Kevin Hague with some questions about Green Party health policy.

Hague's response satisfied me that, despite the party's reputation, references in their health policy to being evidence-based were more than just lip service. I voted for them.

Then, just a month later, Green MP Steffan Browning went and endorsed homeopathy as a treatment for Ebola.

Luckily, the response from Green Party leadership was pretty good. Browning's "Natural Health" portfolio was taken away from him and folded into Hague's health portfolio, after which then co-leader Russell Norman was pretty clear:

It's not something we support and it's not Green Party Policy.

Green MP regrets call to treat Ebola with homeopathy – One News

The Green Party was awarded two awards by the NZ Skeptics at their 2014 conference. One, the Bent Spoon award, goes each year to "the New Zealand organisation which has shown the most egregious gullibility or lack of critical thinking in public coverage of, or commentary on, a science-related issue". In 2014, it went to

Steffan Browning.

But they also chose Russell Norman for a Bravo award – for quickly responding to Steffan Browning's comments and stating that this was not something the Green Party would support as they take "an evidence based approach".

Bravo Awards – NZ Skeptics

After this wobble, it looked like the Greens had recovered and maybe taken another little step away from their anti-science past.

But since then both Russell Norman and Kevin Hague have left the Green Party

Though they are by no means the only great people in the Greens, I feel they had shown themselves to support evidence-based policy. I've been worried for some time now that it might signal a return to the Greens' anti-science past, especially as Steffan Browning still held their GE portfolio despite his anti-science views on that topic.

The Greens' reputation took another blow in my mind

this year, as I discovered when researching DHB candidates for links to quackery that the Greens were backing Sue Kedgley in her stand for the Wellington City Council and the Capital & Coast DHB.

I felt strongly enough about this that I wrote to the Greens to express my disappointment.

Browning is not seeking re-election in 2017.

This could be a great opportunity for the Green Party to shed their anti-science baggage and commit themselves to becoming the evidence-based party that many people, including myself, want them to become.

A good start would be re-addressing their stance on

There seems to be no shortage of opinions Ms Kedgley has espoused that are at odds with the scientific consensus.

When Steffan Browning put his foot in it soon after the election by supporting homeopathy for ebola, I worried I might have made the wrong choice. But the swift reaction from the party's leadership again convinced me I'd done the right thing.

Now I see that the Greens are supporting Sue Kedgley as one of their candidates for Wellington City Council. I'm really, really disappointed about this. And it makes me worry for the party's future.

I'm sure you're aware of Ms Kedgley's history of being on the wrong side of scientific evidence, especially when it comes to healthcare. I know I am. I have seen her be an anti-vaccine scaremonger, try to get quackery like homeopathy integrated into the medical system, oppose safe and effective food biosecurity technology like irradiation, and misleadingly call smart meters a "threat to health". I could go on and on; there seems to be no shortage of opinions Ms Kedgley has espoused that are at odds with the scientific consensus.

With Kevin Hague now leaving the Greens to his new role at Forest & Bird, seeing this makes me very concerned about the current direction of the Green party. Steffan Browning still holds his GE portfolio despite his unscientific views in that area, and the party is throwing its weight behind a city council candidate like Sue Kedgley. It makes me think perhaps the Greens aren't the evidence-based party I hoped they could be.

Mark Hanna continues:

Unfortunately, Kedgley has now been re-elected to both the Greater Wellington Regional Council and Capital & Coast DHB

With all this context, I hope you can all understand why I'm happy to hear the news today that Steffan

GE technology to align it more closely with scientific evidence.



But also, I feel like the time has come for the Greens to cut ties with Sue Kedgley. She hasn't been on their list since 2011. Although Browning is stepping down as a Green MP voluntarily, this is a chance for the Greens to move past their anti-science past by cutting ties with Sue Kedgley.

Here's hoping that, in 2017, they will be an evidence-based option. □

<https://honestuniverse.com/2016/12/15/steffan-browning-leaving-parliament/>

What do we mean by marriage?

By Peter Clemerson, Humanist Marriage Celebrant



A series of reports in the New Zealand Herald in late 2016 and early 2017 covered the domestic violence offending of Pakistan-born Mr. Yasir Mohib and the sequence of Mr Mohib's court appearances. As a Humanist marriage celebrant, my

ing by both parties of a right to the other to exclusive emotional attachment and consideration, a concession to the prevalence of jealousy in human nature (3).

While our legal system appears to protect and value the ceremony of marriage itself, the institution and the

Marriage is regarded by many of us, perhaps most, as a binding of just two people together with legal and emotional ties.

interest in the case, and perhaps that of some other Humanists, lies in Mr Mohib's marital arrangements. He has a family consisting of five children born in New Zealand to their two New Zealand-born mothers, who are referred to in the newspaper articles as his "wives". I wondered how such a situation could have arisen as the procedure for obtaining a marriage licence for the second marriage would have required Mr Mohib or his "wife-to-be" to have made a false statutory declaration about Mr Mohib's marital status when applying for the licence. Had a licence been issued in such circumstances and the marriage taken place, Mr Mohib would have committed bigamy, a criminal offence. In an interview conducted by TV 3 (1) it was made clear that while his first wife was married to Mr Mohib according to Australian and therefore also NZ law, the second "wife" was not. Only a religious ceremony has taken place (2). She calls Mr Mohib her husband but admits that she is not married to him according to NZ law.

I believe the case raises some troubling issues for many Humanists, although perhaps not all. Marriage is regarded by many of us, perhaps most, as a binding of just two people together with legal and emotional ties. While the reasons for including only two parties within the marriage are many and varied, one is the grant-

status that it confers, by criminalising bigamy, a gaping loophole exists. Simplifying slightly, the NZ Crimes Act 1961 defines a marriage as bigamous only if one of the parties is already married and the ceremony is conducted apparently in accordance with the requirements of the Marriage Act 1955.

One of these requirements is the prior issue of a licence. If no licence has been issued, the ceremony has not been conducted in accordance with the requirements of the Marriage Act 1955 and therefore no act of bigamy has taken place. The situation is different in Australia where the ceremony of marriage, its meaning and resulting status are better protected by more careful wording. Here is the relevant passage from the Australian Marriage Act 1961, section 101.

"Solemnisation of marriage by unauthorised person

A person shall not solemnise a marriage, or purport to solemnise a marriage, at a place in Australia or under Part V unless the person is authorised by or under this Act to solemnise marriages at that place or under that Part, as the case may be.

Penalty: \$500 or imprisonment for 6 months."

The important phrase is "... or purport to solemnise a marriage, ...". No-one can call a ritual a marriage ceremony or represent it as a marriage ceremony unless it

conforms in all respects to Australian law. We have no such phrasing in our law. The meaning

of 'purport[ing] to solemnise a marriage' was made clear in a recent Australian case. In 2014, Imam Mu-

ing to stop such marriages becoming ever more widespread.

Mr. Mohib's case also illustrates the spread of a culture and the possible eventual acceptance of a legal system

Should this practice become widespread, we in NZ would find ourselves accepting ever greater inroads into our national life of a practice, the underlying values and a belief system that are all contrary to those we currently promote, the most relevant one here being the equality of the sexes

hammad Riaz Tasawar was prosecuted for conducting an unauthorised marriage, a religious event in a private house (4). He pleaded guilty and

was fined \$500. He escaped the gaol sentence but had his Religious Leader's visa cancelled and is understood to have been deported. There are other instances which appear to show that the Australian legislation is working (5). Because anyone in New Zealand can perform a ceremony of their own design, call it a marriage, and claim that thereafter the two parties are married, the act of marriage and the meaning of the ceremony are not as well protected as they are in Australia. Had we had similar phrasing in our legislation, the imam who conducted the religious ceremony "marrying" Mr Mohib to his second wife would have been guilty of a criminal offence. More likely, no "marriage ceremony" would have taken place. With no such legislation in place there is nothing to stop such marriages becoming ever more widespread

Australian case. In 2014, Imam Muhammad Riaz Tasawar was prosecuted for conducting an unauthorised marriage, a religious event in a private house (4). He pleaded guilty and was fined \$500. He escaped the gaol sentence but had his Religious Leader's visa cancelled and is understood to have been deported. There are other instances which appear to show that the Australian legislation is working (5). Because anyone in New Zealand can perform a ceremony of their own design, call it a marriage, and claim that thereafter the two parties are married, the act of marriage and the meaning of the ceremony are not as well protected as they are in Australia. Had we had similar phrasing in our legislation, the imam who conducted the religious ceremony "marrying" Mr Mohib to his second wife would have been guilty of a criminal offence. More likely, no "marriage ceremony" would have taken place. With no such legislation in place there is nothing

which is contrary to western values and practices, namely, sharia. Mr Mohib has taken advantage of a feature of sharia, namely, the right of a man to have more than one wife, while he would deny the equivalent right to both his wives. Should this practice become widespread, we in NZ would find ourselves accepting ever greater inroads into our national life of a practice, the underlying values and a belief system that are all contrary to those we currently promote, the most relevant one here being the equality of the sexes.

Against the arguments made above is an argument made by Mr Mohib himself, although not in words I would use. As Humanists, we place an emphasis on freedom of thought, expression and action. As long as no harm is done to one person by another, we have no reason to condemn an action and no reason to promote laws which constrain freedom to act in harmless ways. Mr Mohib claims that all three parties to the arrangement he has with the mothers of his children accept it voluntarily and that he is doing no harm. The family has appeared on television without any apparent coercion. He could reasonably claim that their domestic arrangements are no-one else's business. Is he right?

The question that I would like to pose is this: what do we want marriage to mean? If our answer is the same as the one defined by the Marriage Act 1955, which in section 23 explicitly confines a marriage relationship to one between two people only, and therefore wish to protect it as a social institution defined in this way, then we need to make our law similar to the Australian one. The two-person view of marriage was not altered by the Marriage (Definition of Marriage) Amendment Act 2013 which legislated for same-sex marriage. On the other hand, if we as a nation are content to see the term widened in meaning so that anyone can conduct any kind of ceremony and define marriage in any way they choose, as Mr Mohib does, then should we

adopt that view explicitly and abandon the protection the institution of marriage has been given till today? Mr Mohib would then have to allow one or both of his wives to have another husband. In principle, abandoning our current legislation would enable any number of people of both sexes, four men and three women for example, to be joined in a single relationship they choose to call a marriage. Is this necessarily bad and if so, why?

We seem to have a few options. First, we can tighten our definition of the marriage ceremony and the way in which it takes place by aligning our legislation with Australia's, second, we can change the meaning of marriage to mean something other than the relationship between two people or third, we can do nothing. There may be other options. The one arrangement that I am confident would not get national approval is the one in which men may have more than one wife but women may not have more than one husband, the institution of polygyny. However, the do-nothing option will likely lead to this with increasing frequency. As a country, we are being forced to ask ourselves for a second time what do we want the institution of marriage to consist of and mean? Are we ready to face up to the question or will we do nothing? □

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<https://humanist.nz/newsletter/march-2017/>

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Tracking a Russian hacker

By Daniel Ryan, NZ Skeptics Technology Officer.

I had just arrived at work, and in my email inbox I saw that I had received an email from Mighty Ape (an online store) saying that I had a \$100 voucher on order. That's odd, I thought. No, I'm sure that I didn't order it by mistake at 3am. I then thought it may have been a free gift. I had bought a number of gifts for Christmas from Mighty Ape, so maybe I had won something. I searched around on the net and checked to see if there were any competitions or freebies going on, but I couldn't see any hits.

I'm pretty sure my password is not one that could be dictionary attacked (this works by trying as a password all the strings in a pre-prepared listing, typically derived from a list of words such as a dictionary)

So I logged onto the Mighty Ape website and looked up "my" order. It showed my credit card had not yet been charged. I contacted the Mighty Ape support team to get to the bottom of this. They came back to me saying that someone had accessed my account and ordered the voucher. The voucher was due to be sent to the email address lbindcwv@10mail.org. Mighty Ape were good enough to cancel the order.

I quickly changed my password. I was surprised that I had been hacked; my Gmail account hadn't been touched, as the service would warn me. But I double checked the logs on Google Accounts (accounts.google.com), just in case. I'm pretty sure my password is not one that could be dictionary attacked (this works by trying as a password all the strings in a pre-prepared listing, typically derived from a list of words such as a dictionary), but with enough time it could be brute forced (this method works by calculating and trying every possible character combination that could make up a password).

I asked Mighty Ape for more details about their security. They said:

"Our security system is set to automatically pick up on suspicious transactions such as this, and it looks to

have correctly done so in this instance, preventing the transaction from going through and placing it on a list of orders that would need manual review and approval.... Rest assured we are actively monitoring this to ensure that there is no issue on our end."

I also suggested that they should increase their password character limit to 8 characters, which they said they were going to look into when they review their password policies.

The email lbindcwv@10mail.org seemed to be valid, so I did a whois lookup (publicly available search service that provides information about a domain name) on the 10mail.org domain name. The server was located in Russia, and so were the owner's contact details. The domain has no public website, and it looks likely to be a spam/scam service; there were plenty of examples online showing this. I found it odd that someone from Russia would be trying to steal a voucher for a New Zealand company.

I also considered contacting the police (<http://www.police.govt.nz/contact-us/how-report-crime>) and their webpage suggested I contact NetSafe.

They gave advice that was pointless to me (change password, virus scan, etc) and thanked me as reports like mine help them to identify emerging patterns. I was a little disappointed of the reply, so I asked them to contact Mighty Ape and get the IP of the hacker and track their ISP down.

They replied:

"Unfortunately, Netsafe's role around scams/security is more around educating and providing advice. So, unfortunately, we do not have forensic investigatory

powers to be able to follow this up in the manner that you have asked.” Another dead end. I asked who I should report this crime to. They came back with: “You do have the option to report this to the police, if you want, however, the Police might not be able to take action. I understand how frustrating this can be, but unfortunately there is no agency yet that specializ-

email and connected data may have been leaked online. It looks like 8 websites (Adobe, Dropbox, gPotato, Last.fm, Nexus Mods, Tumblr, Xat and LinkedIn) have leaked my account data over the years. One of those websites were responsible for helping this hacker gain access to my Mighty Ape account.

Disappointed with the results, I felt I could try the police but I probably would need an IP that belonged to a New Zealander for any kind of action.

es in tracking down cases like this, due to the global nature of the platform.

This is predominantly because of difficulties associated with tracking the person responsible down as they might be based overseas, which would lead to judicial problems. Further, in terms of IP addresses, the one used might not reflect the actual IP address (e.g dynamic IP versus static IP <https://support.google.com/fiber/answer/3547208>) and the person who owns the computer, might not be the one who attempted compromising an account, etc.”

I was shocked. There is currently nothing in place to help New Zealanders against cybercrime.

With all the problems that NetSafe listed with tracking IPs, we still do it with the Copyright (Infringing File Sharing) Amendment Act 2011.

Disappointed with the results, I felt I could try the police but I probably would need an IP that belonged to a New Zealander for any kind of action. Trying my luck, I again contacted Mighty Ape said what happened and I was going to contact the police, I asked for the IP of the hacker.

They gave the IP of “173.254.216.66”, but more bad news. It was a proxy, there is no way to get the location of the hacker. This person was a professional alright.

Mighty Ape support also said they are building a real-time alert system that would notify customers if there is an unusual login on their account, which is great.

They sent over an awesome website too (<https://haveibeenpwned.com>) that helps to identify if your

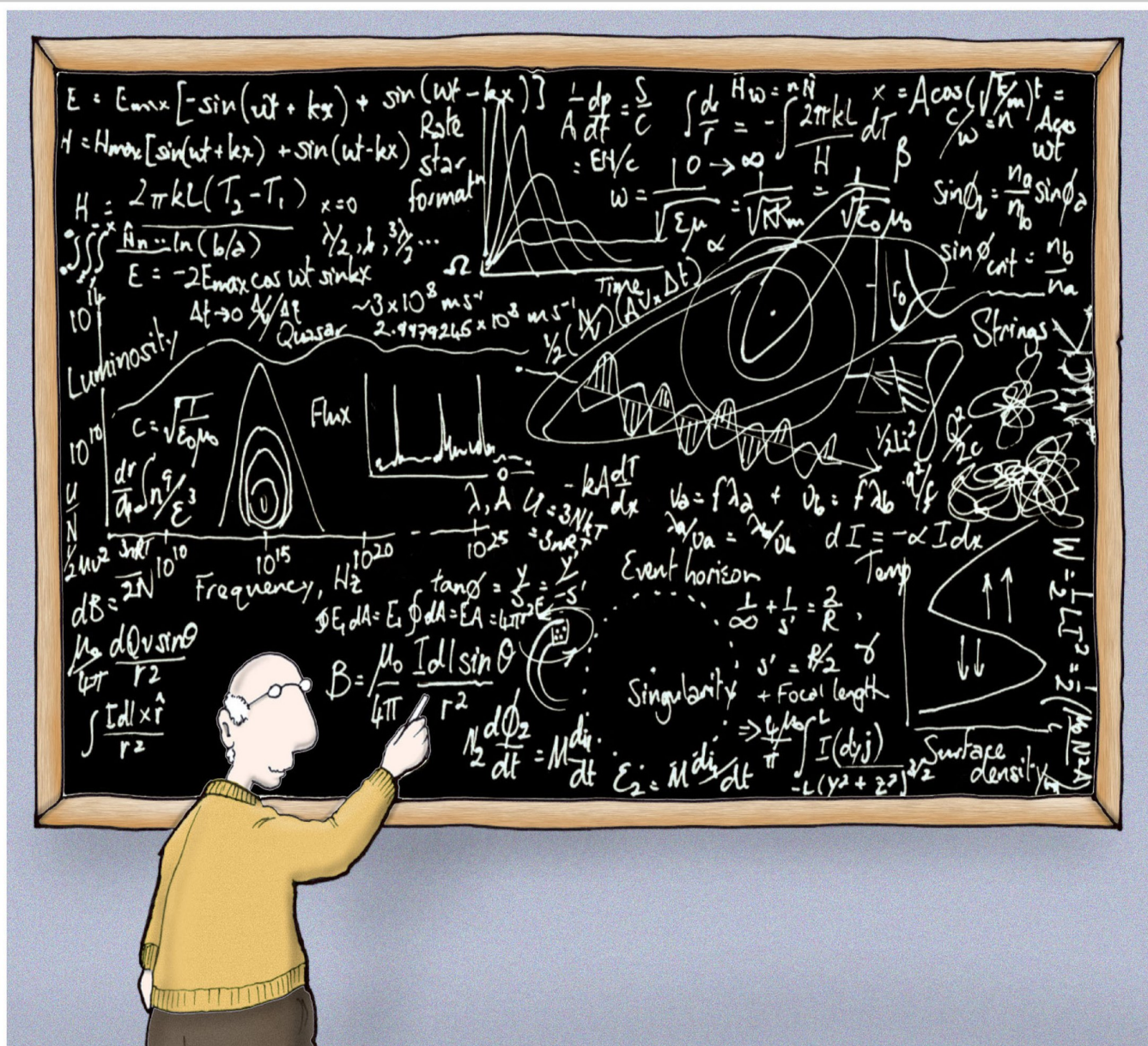
This is partially my own fault for using an old password, lesson learned. So yeah, it is probably pointless going any further. I guess I could always send a fake voucher to the hacker’s email and waste their time... until next time.

P.S: Two factor authentication saves lives, it helps against such attacks. ☐

"It's natural to think that living things must be the handiwork of a designer. But it was also natural to think that the sun went around the earth. Overcoming naïve impressions to figure out how things really work is one of humanity's highest callings."

Steven Pinker,
Can You Believe in God and Evolution?
Time Magazine, August 7 2005

CARTOON—Science and Ink—By Nick Kim



Astrophysics made simple!



Brain Wave Pseudoscience

By Steven Novella

Founder and currently Executive Editor of Science-Based Medicine Steven Novella, MD is an academic clinical neurologist at the Yale University School of Medicine. He is also the president and co-founder of the New England Skeptical Society, the host and producer of the popular weekly science podcast, *The Skeptics' Guide to the Universe*, and the author of the *NeuroLogicaBlog*, a daily blog that covers news and issues in neuroscience, but also general science, scientific skepticism, philosophy of science, critical thinking, and the intersection of science with the media and society.

iSynchrony has put together a plausible-sounding bit of bafflegab to justify what it sells. The reality of neurology is against their claims.

Some alternative medicines are essentially magic – like homeopathy, acupuncture, reiki, and straight chiropractic. They purport to work through non-existent “life force” or essence. Sometimes they try to blur the lines by adding a layer of scientific jargon, but in the final analysis they are mag-

devices in the Victorian age, prompting some mainstream debunking.

At the turn of the 20th century, soon after the discovery of radioactivity, radiation cures were popular. It took the FDA to finally shut down radioactive health products in the mid-20th century. By then radiowave treatments (3) were popular. At the turn of the 21st century we now have stem cell quackery (4). Stem cells are a legitimate emerging technology, but there is

Emerging technology pseudoscience has been a thing for a couple of centuries. It goes back at least to the discovery of electromagnetism and its importance to biological systems.

ic. Other so-called alternative products or treatments are just bad medicine. They have not been properly studied, their plausibility is low, or they have actually been shown not to work. Still others are overtly spiritual, like mind-body new age nonsense (but at least it's honest).

Some treatments, however, are pure pseudoscience. They purport to work through sophisticated mechanisms understood through cutting-edge modern science. They often exploit hype about the potential of emerging technology, and so are planting their scams in fertile soil. Emerging technology pseudoscience has been a thing for a couple of centuries. It goes back at least to the discovery of electromagnetism and its importance to biological systems. Anton Mesmer's “animal magnetism” is an example. Magnetic devices were all the rage in the 19th century. There were literally hundreds of magnetic (1) or electrical (2) quack

a huge gap between the potential promise and the current reality. This gap is filled by an increasing number of stem cell quack clinics that promise to cure a variety of severe diseases by injecting a mysterious stem cell cocktail somewhere.

I also dare you to find a supplement that does not contain antioxidants (I know they exist, but you get my point).

None of these promising technology-based scam therapies go away entirely (except for radioactive treatments, for obvious reasons). They just get added to the growing list. Magnetic, electrical, and radiowave-based treatments are still popular.

Neuropseudoscience

The last two decades have seen an explosion in our ability to study and our knowledge of brain function. Neuroscience itself is as old as phrenology, but with

new knowledge and techniques comes a new batch of pseudoscientific claims. I was recently pointed (by David Gorski) to one particular company that nicely represents this phenomenon. iSynchrony claims to treat neurological disorders by adjusting your brain waves. They claim (5):

“Using a well-established technology, the electroencephalogram (EEG), we analyze our patients’ brain wave activity to identify the areas that are “out of sync.” With this data, we create a customized plan to treat psychiatric and neurological disorders utilizing individualized Transcranial Magnetic Stimulation (iTMS).”

We already know that some children with autism have diminished connections among their brain cells. In other words, the brain does not talk to itself as robustly as in neurotypical children.

They do a good job, in my opinion, of skimming technological jargon off the top of actual scientific studies, without representing the actual science. The result sounds impressive to a non-expert, while simultaneously sounding like gibberish to a neuroscientist. They further “explain:”

“In a person whose brain activity has had its frequency disrupted by a physical or emotional trauma, the brain’s waves may appear imbalanced. iTMS directs short magnetic pulses to the area of the brain in need of stimulation to help synchronize the alpha waves and restore balanced brain wave activity.”

There is essentially zero plausibility to this claim. To further explain why we need some additional background on TMS. This technology uses magnetic waves to either increase or decrease the firing rate of a network of neurons.

The core notion on which they are basing their claims is that brainwaves are normally synchronized or “balanced,” but this balance is disrupted by trauma (emotional or physical), and their treatment restores this balance. All of this is either misleading or untrue. In their promotional material they claim that: “Children with autism have disrupted neural synchronization compared with controls.” They then link to this study (6) for support. This is a great example of distorting the findings of a study to support dubious

claims that sound scientific.

The study does purport to show that children with autism have abnormal neural synchronization, but you have to dig deeper to find out what they are actually talking about. We already know that some children with autism have diminished connections among their brain cells. In other words, the brain does not talk to itself as robustly as in neurotypical children.

In healthy brains neurons have a normal resting firing rate at a certain frequency. One core concept in neuroscience is that cells that wire together fire together. So it is also true that clumps of neurons will fire together, they will synchronize their baseline pattern of firing.

Further still larger networks of neurons can do the same. Coupled with this is the further basic notion that there is tonic inhibition of neuronal firing at baseline, meaning that at rest the brakes are on so that neurons don’t fire out of control. Neuronal synchronization results from the interconnectedness of brain networks, but also from alternating waves of different amounts of inhibition of those networks.

The result of all this is that, at rest with the eyes closed, an electroencephalogram (EEG) will record what is called the alpha rhythm, an 8-12 Hz smooth sinusoidal wave synchronized throughout the brain (but domi-

nant in the back of the brain). Children with autism have decreased interconnectedness, therefore they have decreased synchronization. No surprise there.

Here is where iSynchrony makes a massive and implausible leap:

“Patient-specific treatment with iTMS tailored to each patient’s unique alpha-EEG signal – serves as an effective therapy for autism by normalizing the alpha brain wave oscillation.”

There is essentially zero plausibility to this claim. To further explain why we need some additional background on TMS. This technology uses magnetic waves to either increase or decrease the firing rate of a network of neurons. This is a very useful technology for research because it can be tuned to a specific frequency and targeted to a specific brain region. We can say – let’s see what happens when we turn down this part of the brain?

TMS is also an emerging potential therapeutic tool. It may be possible, for example, to stop a seizure or migraine from progressing by using TMS to inhibit neuronal firing. There is absolutely no reason, however, to

children, done by Dr. Jeff Bradstreet under the auspices of the Brain Treatment Center, were released showing that an individualized Transcranial Magnetic Stimulation (iTMS) protocol could dramatically improve autism with slightly less than half the children achieving a neuro-typical rating by Child Autism Rating Scale, and another quarter achieving a 30% improvement in their scores. These results open a new frontier for reversing autistic symptoms. “

For regular readers of SBM or anyone familiar with the anti-vaccine movement, alarm bells should be ringing. First, Autism One is not a science conference. David Gorski has characterized it as an “anti-vaccine quack-fest” (7). So the results of this study have not been pub-

So the results of this study have not been published, peer-reviewed, or even presented at a scientific conference, just a non-scientific conference essentially known for promoting dubious quack treatments for autism.

suspect that TMS alters brain wiring.

In autism the altered EEG pattern is simply a manifestation of the underlying pattern of connections among neurons, which is decreased. Using TMS to change the EEG may have an effect while the TMS is being applied, but its effect is temporary at best and may just be cosmetic when applied to a condition like autism. TMS does not change the underlying condition of decreased brain interconnectedness, and therefore has no plausibility as a treatment for autism. There is no more reason to think it will cure autism than to think that covering over a measles rash with makeup will cure measles.

lished, peer-reviewed, or even presented at a scientific conference, just a non-scientific conference essentially known for promoting dubious quack treatments for autism.

Even worse, Dr. Jeff Bradstreet is a known promoter of pseudoscientific autism treatments. In 2015 Bradstreet was found dead from an apparent suicide (8). The regulatory noose was closing in around him – his clinics were being raided and it seemed that his time was up. According to The Washington Post:

“Despite scientific consensus to the contrary, Bradstreet believed vaccines could cause autism.

For regular readers of SBM or anyone familiar with the anti-vaccine movement, alarm bells should be ringing. First, Autism One is not a science conference. David Gorski has characterized it as an “anti-vaccine quackfest”

But the iSynchrony promotional material links to studies about autism, about the EEG, about TMS in order to make it seem like their treatment is scientific. When they make their ultimate claim about treating autism quoted above, however, there is no link. That is because there is no published study showing that it is effective.

They do, however, make this claim:

“At the 2014 Autism One conference, the results of a 12-week randomized controlled trial of 24 autistic

(9) And he recommended unorthodox and often unapproved autism treatments including hyperbaric oxygen chambers; hormone injections; stem cell therapy and chelation, a risky chemical procedure Bradstreet believed could remove the mercury supposedly introduced by vaccines.”

iSynchrony has essentially tied their scientific validity to a disgraced autism quack who presented one small and likely worthless study at a pseudoscientific conference. I think that puts things into perspective.

Unfortunately iSynchrony is not unique in exploiting “brain wave pseudoscience.” It does sound superficially compelling (if you are not a neuroscientist), the notion of altering the brain waves to alter brain function. The problem is that such claims have the arrow of causation backwards. Brain function determines brain waves, not the other way around. Changing how the brainwaves look on EEG is just cosmetic. At best it might reflect an immediate effect. For example, drugs that affect brain function can certainly change the brain waves – but that is because they are changing brain function. TMS can affect brain function while it is being applied, but it does not rewire the brain or cure anything.

Further still, the notion of “balancing” the brain waves is too simplistic. It does not reflect any real understanding of brain function.

Extending the claims further to psychiatric illness, or just optimizing brain function for the worried well with lots of disposable income, is even more tenuous. I have looked at a lot of EEGs. In a healthy brain they should be symmetrical left to right. We specifically look for asymmetry as a sign of pathology. Emotional trauma, anxiety, depression, and similar conditions should not cause any such changes. A stroke or a tumor would.

Further, EEG is a very noisy medium. It takes a lot of training to see the patterns through all the noise, and to filter out the normal variants and all the things that can affect the EEG (like blinking or facial muscle movement). Noisy systems are ideal for quacks, however, because they provide ample opportunity to make up fake patterns from the noise. If you want to see “individualized imbalance” in an EEG, you can. You can also program an algorithm to mine the EEG noise for similar imbalances.

In the end what we have is just a 21st century version of a phrenology machine.

In short, be very skeptical of any device or treatment that promises to balance your brain waves. Such claims are pseudoscientific nonsense. ▢

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<https://sciencebasedmedicine.org/brain-wave-pseudoscience/>

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The conference will be held in Wellington on the weekend of November 24th – 26th, at the Sisters of Mercy Convent.

We're featuring a great line-up of speakers, including our international guests: Cara Santa Maria, Alan Melikdjanian, Britt Marie Hermes, Cecil and Tom from the Cognitive Dissonance podcast, and Ken McLeod. Locally, we have: Kevin Hague, Dr Alison Campbell, Dr Vanessa Jordan, Dr Jonathan Broadbent and Vinny Eastwood.

The weekend promises to be a fantastic opportunity to mix and mingle with like-minded folk and soak in the sceptical energy field :)

For more information and to book tickets:

<http://conference.skeptics.nz>

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