



New Zealand Skeptic

Number 116

Winter 2015

Skeptical Activism

Skeptic meetup and ASA complaints

No Danger Will Robinson

An inside look at the *UFOs and their Spiritual Mission* conference

Placebo by Conditioning

Understanding placebo effects

skeptics.nz



The New Zealand Skeptics form a network of New Zealanders including scientists, health professionals, teachers, magicians and many others from all walks of life. Members have a variety of religious faiths, economic beliefs and political leanings, but are all interested in examining what objective scientific support there is for claims of such things as psychic abilities, alternative health practices, creationism and other areas where science, pseudo-science and shonky science interact.

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**Deadline for next issue:
4 October 2015**

Letters for the Forum may be edited as space requires – up to 250 words is preferred.

Please indicate the publication and date of all clippings for *Newsfront*.

Material supplied by email or web document is appreciated.

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All references and citations for this issue can be found at skeptics.nz/journal/116

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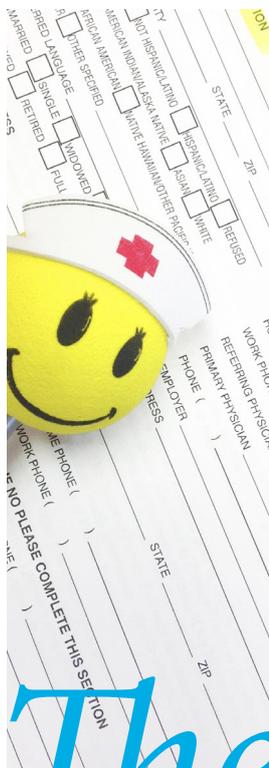
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The winter blues

Ahh, winter. The season when I stare forlornly out the window, looking at the rain and wind, my pockets filled to the brim with tissues, wondering how it can be that there are so many brainy people in the world and we still haven't found a cure for the common cold.

Winter is the season that often has me feeling a little bewildered, and that's not just a symptom of the common cold. The reason is mostly because winter seems like the time when people around me try and tell me the latest thing that is just 'the best thing ever' for treating their cold: Echinacea, honey drops, neti pots, Vitamin C - they all claim they do something miraculous.

When I'm feeling like my head is full of cotton wool and someone hands me an Echinacea tablet for my cold, all I can do is look befuddled. They hit me when I'm down: the last thing I feel like doing when I've got a cold is have a hearty debate on the placebo effect and confirmation bias.

Not that I blame them for their enthusiasm. It's not like the media, alternative health stores, and even pharmacies are very careful about what they claim is beneficial to our health. I saw an article on *Stuff* last month touting the benefits of kombucha. I didn't even want to know what it is or what it's supposed to do. I Googled it and I saw the pictures. No thanks.

Of course anything can seem miraculous when it's paired with the cure of time. We know that the common cold will get better in a week or so - no matter what herb, tincture or homeopathic remedy you decide to ingest. Which is why it's so easy to think that the herb, tincture or homeopathic remedy you ingested actually worked.

We also almost always underestimate our own immune systems. A colleague of mine swears by upping her intake of Vitamin C when she feels a cold coming on. And when the cold miraculously doesn't manifest, hallelujah! Vitamin C is amazing! But she never does stop and think that maybe, just maybe, her own body's immune system was already doing the work that the Vitamin C was apparently doing.

Time, rest, some aspirin or ibuprofen and maybe a nasal spray to help with the symptoms is pretty much all the remedies that seem to work, according to science-based medicine. It may be the common cold, but there is no common cure yet. So next time you have a cold, save some of your money and pass on the herbal remedies and vitamin tablets. Just take a sick day or two, stay in bed, binge on some Netflix TV shows and have some soup. These things may not cure you, but it just might make you feel better. As the saying goes, "A treated cold lasts seven days, and an untreated cold lasts a week." ☐

Read something of interest? Share it with us.

Email editor@skeptics.nz (Please indicate the publication and date of all clippings)



Quote of the season:

“They ask for equal dignity in the eyes of the law. The Constitution grants them that right.”

- Justice Anthony Kennedy

On 26 June 2015, same-sex marriage became legal across the US when the United States Supreme Court ruled in *Obergefell vs. Hodges* that state-level bans on same-sex marriage were unconstitutional.

GHOST HAUNTS OKATO PUB | Stuff, 3 Jul 2015 | Living with a ghost hellbent on messing with neatly hung pictures has become a daily chore for the Stony River Hotel proprietors.

Every morning, Renate and Heimo Staudinger routinely walk through their Okato establishment in Taranaki re-straightening frames they believe have been moved by their resident spirit – a 35-year-old woman who died more than a century ago. Even after the pictures were further fixed to the walls, they continued to be moved, Heimo said.

“I went through and blu-tacked the frames to the wall, but still, they move.”

Displaced images were not the only indication the couple has an otherworldly flatmate, he said. The pair, who moved to New Zealand from Austria in 2009, frequently returned home to find lights switched on.

“I came home and saw the lights on from outside and said to Renate ‘why didn’t you turn the lights off’ and when I was going upstairs and when I came in the room it was turned off. So I knew something was going on, something funny,” he said. Doors in the building were also known to open and close without explanation.

The Staudingers talked about the prospect a resident ghost was messing with their hotel when they first took over the building in 2013, but it was not until they had a visitor who claimed to be attuned to the spirit world that their suspicions were confirmed.

Heimo said they discussed the paranormal activity with their guest who investigated the situation. When she walked around the 140-year-old building she could sense a presence, he said.

“She had connected to a woman, to a ghost who lives in our hotel.”

She told the Staudinger it was a friendly 35-year-old

woman who died more than a century ago and now dwells in the country hotel. A photo taken by Heimo captured an elongated glow with a green fringe floating in the restaurant’s dinning room. Skeptics have suggested the light was an illumination from the nearby fridge. But Heimo said the appliance did not have a light and of the 10 photos he consecutively snapped only one exhibited the glow.

Being in the presence of a suspected ghost was a first for the Staudingers but they have taken to the situation with an open mind. And the couple agree “she” was more than welcome to stick around.

“We felt from the beginning very safe, it was a very different feeling to all of the other houses,” Renate said. “It was never scary, it was always a feeling of ‘we are not alone’. And I think she is happy she is not alone anymore.”

HUNTING FOR CLUES IN HAMILTON’S HAUNTED PLACES | Stuff, 25 Jul 2015 | Hamilton man Josh Carroll is skeptical of haunted places.

It’s strange because he is a paranormal investigator. He detests the term ‘ghost hunter’: “It’s appalling. It brings up connotations that we’re seeking them out like they’re some sort of prey that we’re going to capture and deal with.”

Since he was a child he has always been “spirit sensitive.” It’s what started him out in this work 25 years ago.

“I’ve always been able to sense things and see things other people weren’t ... It used to terrify me when I was a child, but as I’ve got older it just started really fascinating me ... When I was a teenager I used to go to abandoned buildings by myself and check things out.”

He had been working solo up until last week, Carroll assembled a paranormal team. They are called *Midnight*

Paranormal Hamilton and they research and investigate claims of paranormal activity in the Waikato. Carroll said he has had a lot of work in Frankton. But many in Waikato don't know the group exists.

"A lot of people, especially in the Waikato, have no idea that there are actually people around that they can contact, that will take them seriously and listen."

His team work for free and all of the spirit detecting equipment Carroll owns he pays for out of his own pocket. He has a range of audio devices and basic digital cameras.

"I also use EMF (electro magnetic field) detectors, which electricians use to check out electro magnetic fields that are coming off electrical equipment and appliances and wall plugs," he said. He also uses land and building information to assist in ruling out causes.

"Every case we go into the house and we rule out natural causes for what they're experiencing. Whether it's electrical, plumbing, structural (house) and what the environment is like." He says it's his thorough research that rules out the paranormal in most cases, with the remaining 25 percent of his cases termed unexplainable.

But he can't prove without doubt they are haunted.

"You can never say 100 percent because it's an unproven science. No one in the field can claim they have 100 percent proof," Carroll says. "We can show the client what information we've gathered; whether it's audio, pictures or something else and discuss it with them."

Midnight Paranormal Hamilton doesn't cleanse places of spirits. Carroll is skeptical of psychics and mediums; if clients want their home cleansed of what they might think are unwanted spirits he suggests going to see a church.

He also detests paranormal hunting shows on YouTube – they're too dramatic.

Vicki Hyde, spokesperson for NZ Skeptics said although these types of stories are entertaining they should be taken with a grain of salt.

"We are always going to have unexplained things, we live in a world we don't know 100 percent of what goes on. However it's a big jump to go from 'I feel weird in this room' to 'that must mean there is life after death and there are ghosts haunting this house'," she said.

If there was scientifically validated evidence of hauntings it would be worldwide news. That simply hadn't happened..."Take it with a pinch of salt."

WITCH DOCTORS TARGETING VULNERABLE KIWIS | 3

[News, 26 Jul 2015](#) | Indian witch doctors are arriving in New Zealand on tourist or temporary work visas and duping vulnerable Kiwis into forking out thousands of dollars. One Auckland man has lost almost \$12,000, and after being alerted by 3 News, Immigration New Zealand says it's investigating.

Indian Community Leader Pratima Nand is on a crusade against what she calls "witch doctors". She's gone undercover with 3 News and says they're using New Zealand as a test market.

"They are destroying families, they are sucking people in. A friend of mine has been sucked up to \$1400 with no results. Somebody has to take action," she says.

Witchcraft practitioners in South Auckland are not hard to find. In one newspaper alone there were three ads, all offering 100 percent lifelong protection from black magic, money problems and marriage problems.

Most witch doctors are here on tourist or temporary work visas and they advertise hourly on a local Indian TV channel, Apna.

3 News found one healer in South Auckland in a tiny room behind a legitimate clothing store in Otahuhu. Ms Nand told him a false story of wanting to reunite with her husband after 17 years. She's told 15 prayers will cost her \$420.

Ms Nand says she was given a small container and told to take it to the bank and put the money in it.

"He said all the black magic will get trapped into this and then I give back to him with the money."

Six days later at her next visit, the healer told her the black magic had grown so strong she was told he must pray another nine times – but he will need more cash.

3 News paid a visit to the witch doctor to clarify some things. He wouldn't front, but his wife did.

"We are praying to God," she says.

She says they do not accept any money from anyone and there is no guarantee they can solve any problems.

Nearby in Papatoetoe there is a different healer with the same story. A woman was also the only one to front when 3 News visited.

Immigration New Zealand says it has "identified several individuals who appear to be involved in this type of activity and we are currently investigating".

"We are unable to make any substantive comment while that investigation is underway."

It says anyone receiving payment for this type of activity would be in breach of his or her visa conditions, regardless of whether they're in New Zealand on a visitor or temporary work visa. For at least half a dozen Indian healers in Wellington and Auckland, officials say that now means deportation.

GIRL READS WHILE BLINDFOLDED | [Stuff, 29 Jul 2015](#) |

A girl who claims to be able to read while blindfolded has given a demonstration in Rotorua – part of an effort to spread awareness of the benefits of having your 'third eye' awakened.

The third eye, also known as the inner eye, is described as an invisible eye which believers claim provides perception beyond ordinary sight and is a gateway to higher consciousness. It is believed through the awakening of the third eye, a person can see while blindfolded, sense 'diseased organs' in a body and read minds, among other superhuman powers.

The demonstration was hosted by the Rotorua Life Bliss Foundation group at Waiariki Institute of Technology yesterday, and was attended by about 30 people.

Ma Nithya Maheshwarananda, 12, from Dallas, USA, was blindfolded. Members of the audience gave her various reading material, including a business card, a flyer and a Rotorua Daily Post article – all of which she read aloud word-for-word.

At least two people, including a Rotorua Daily Post photographer, tested the blindfold and said they could not see through it in any direction. Ma Nithya Maheshwarananda said she had her third eye awakened about a year ago while attending a holistic school which taught vedic sciences alongside mainstream education.

Rotorua's Keith Garratt is a New Zealand Skeptics committee member. He said the society always tried to seek a rational explanation before believing such claims.

"I don't know what people saw or whether it seems to be miraculous or not but there have been many illusionists and magicians who appear to do things that are miraculous but don't claim that it's supernatural," Mr Garratt said.

Life Bliss New Zealand member Barbara Hock said her response to skeptics was always the same. "If you don't believe it, just try a meditation first. If it feels good and you like it, try some more. Everyone has the ability to have their third eye awakened but those skeptics who are so adamant that it's a lie and need to prove themselves to be right may not be able to experience it."

She said she had attended the three-week programme.

"I can read while blindfolded but if I am put on the spot or feel too much pressure, I can't do it, I need to practise more to be able to block out those insecurities and baggage."

UNVACCINATED NURSES WHO REFUSED FLU JABS SENT HOME | NZ Herald, 1 Aug 2015 | Three Waikato Hospital nurses have been suspended for defying a controversial new policy forcing non-vaccinated workers to either get flu jabs or wear face masks.

Waikato District Health Board has defended its stance, saying any staff member who refused to comply could face the sack. Last month the board became the first in the country to make it compulsory for unvaccinated staff to wear masks, to protect employees and patients from the flu.

Last night it confirmed that four workers, understood to be nurses, had since been identified as being "non-compliant" with the new policy – a move unions have branded as heavy-handed and "bullying".

Three of the workers were suspended and given an opportunity to "review the clinical evidence" and meet their supervisors about the issue, the DHB said. All had since returned to work. The fourth staffer was made subject to "restrictions".

The DHB refused to say last night how long the workers were suspended or whether they agreed to vaccinations in order to return to work. While no staff have yet taken legal action over the policy, the DHB has been served with a claim by several unions challenging it.

A DHB spokesman reiterated that any staff who worked in clinical areas and were not prepared to be immunised or wear a mask would be removed from active clinical duty.

"If following further discussion a solution is not reached, then it is foreseeable that employment will be terminated."

One staff member told the Weekend Herald that while she personally didn't have an issue with the policy, some staff had been "very vocal", protesting it was bullying behaviour. The DHB, however, claimed the policy had had "widespread acceptance" and contributed to a big increase in staff getting vaccinated. More than 75 per cent had – an improvement on last year's 53 per cent.

"When considering that our employee numbers are in excess of 6,500, the reality is that almost all staff are getting on with doing their duties and they recognise that the intent of the policy is to provide a safer clinical environment for our patients and fellow employees," the spokesman said.

But the Nurses Organisation sees the measure as a "punitive action" against staff, some of whom have turned to the union for support.

"Whether the DHB can legally suspend staff and discipline them is unknown," said the union's industrial adviser Lesley Harry. "However, we believe the DHB has failed in its obligations to adequately consult with unions both in respect of the implementation of the policy and its impact on the workforce."

Ms Harry said that while the Nurses Organisation supported education on vaccination, as well as making jabs readily available to staff, Waikato DHB had gone too far.

"We think forcing healthy nurses to wear masks when dealing with patients and their families regardless of circumstances is bullying behaviour," she said. "It doesn't make sense to suspend a nurse, send her or him home and leave the work area short-staffed and unsafe for patients."

The Public Service Association also condemned the policy, calling it the "latest from employers who do not listen to their staff and prefer using the stick over the carrot". And the executive director of the Association of Salaried Medical Specialists, Ian Powell, was concerned the policy could lead to "naming, shaming and blaming" of unvaccinated staff.

The office of Health Minister Jonathan Coleman said he could not comment on what was an operational matter for the DHB.

More than 1.2 million influenza vaccinations have been administered as the illness soars to epidemic levels, similar to the situation in 2010 and 2012, when some patients died. The last weekly influenza report from ESR shows 319 suspected cases were reported in the week to Sunday, up from 184 in the previous week.

WI-FI GADGETS LINKED TO CANCER RISK | NZ Herald, 2 Aug 2015 | Mobile phones, laptops and wi-fi may increase your chance of cancer and other brain diseases, researchers warn.

Supporting claims that wireless devices carry a health risk, a study showed they may help cause a metabolic imbalance linked to brain tumours and other neurological disorders including Parkinson's and Alzheimer's.

But other experts insisted that while the science in the study was sound, the risk to human health was still tiny and cautioned against an alarmist reaction to the findings.

The research, published in the *Electromagnetic Biology*

Medicine Journal, was led by Dr Igor Yakymenko from Kiev.

It looked at the effect of low-intensity radiofrequency radiation (RFR) emitted by wireless devices, using studies from the US, Finland and Ukraine that mostly examined the effect of RFR on rats.

Prolonged exposure was found to cause the body to release harmful molecules known as free radicals which can damage DNA, causing tumours and other disorders, unless they are “cleaned up” by antioxidants – such as those commonly found in berries, tea and red wine.

Dr Yakymenko said there was evidence that four years of using a mobile phone for at least an hour a day increased the incidence of some rare brain tumours by three to five times. The amount of RFR we are routinely exposed to has increased 5,000 times in the past 20 years and although health risks are low, ailments can take up to 30 years to develop, he added.

The study suggested keeping mobile phone use to a minimum and always using headphones. But Sarah Williams, health information manager at Cancer Research UK, said: “It’s unlikely that using mobile phones causes brain tumours. Over the last two decades, mobile phone use has rocketed in the UK but we haven’t seen any similar rise in the rates of brain tumours.” □

Got something to say?

Email editor@skeptics.nz

Issue 115, 2015 | I have just read your editorial and really enjoyed it. You make a lot of very good points and, as a teacher myself, I can relate to some of the experiences that you have described.

And it is not just the parents that display wilful ignorance about immunisation! A couple of decades ago, I remember that a promotion was made at my school for girls to be vaccinated against the papillomavirus. One of my teaching colleagues, who was also a practising homeopath, expressed considerable opposition to this promotion. Sigh.

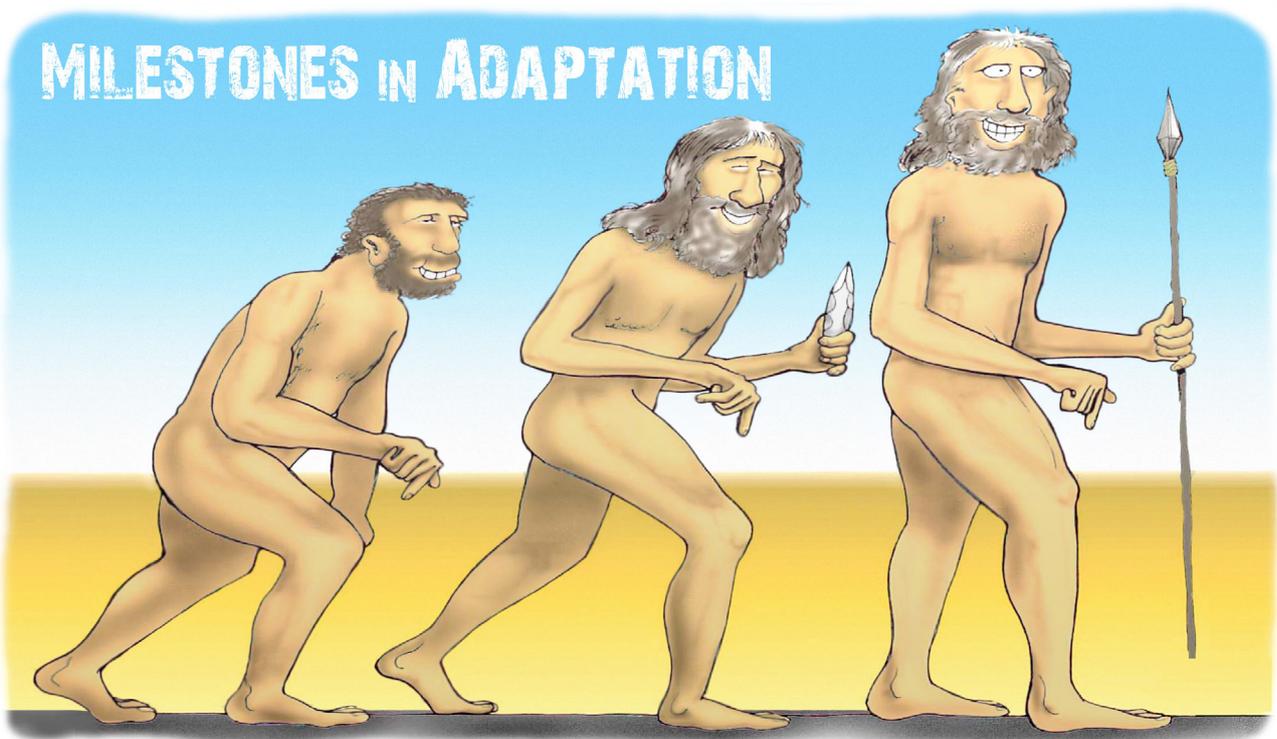
It is frustrating that the anti-vaxxers often like to trumpet the fact that they have avoided the nasty infections that vaccines are supposed to protect us against. The major reason for this is, of course, that they are free-riding upon those of us who do immunise.

Thanks again for your most interesting editorial.
Regards,
Mark Fletcher

Cartoon by Nick Kim

MILESTONES IN ADAPTATION

Science and ink



Two million years ago, nude male Hominins spontaneously developed a classic right-leg-forward stance in response to a major influx of college textbook artists.



In recognition of the Apocalyptic theme of the upcoming Skeptics Conference, Vicki Hyde looks back in the vault to 2012 to see what doomsday predictions we managed to survive.

Humanity survived the hype and dread of the Judgment Day of 1844, the deadly Halley’s Comet which almost hit the planet in 1910 with its toxic tail, the cataclysmic digital failure popularly known as Y2K in 2000, and 2011’s Rapture. We are now facing another doomsday prediction set for December 12 2012, calling on spurious science like:

1. **Planet Nibiru:** a planet-sized object which, according to believers, is set to collide with the Earth in 2012. It’s the brainchild of Nancy Leider, founder of the website *ZetaTalk*, who describes herself as a “contactee” who can receive messages from extra-terrestrial life. Leider said a collision with Planet Nibiru would destabilise Earth’s pole, which would subsequently displace the Earth’s crust. There is no such invisible planet. It should already be visible to the naked eye.



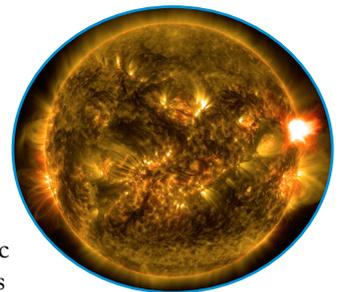
2. **Mass Extinction:** a doomsday claim that mass extinctions occur every 26 million years, due to the vertical oscillations made by the Sun as it orbits the galactic centre, regularly passing through the galactic plane. The shift in Sun’s position increases the likelihood

of galactic collisions leading to mass extinction of species. Dating such timings over millions and millions of years cannot be exact. And the Sun’s galactic position is at least 10 million years away from another pass through the plane.

3. **Death of Betelgeuse:** even though the red supergiant star Betelgeuse is set to undergo a supernova at some point in future, it can never be a threat to the Earth, as the star is approximately 600 light years away.

4. **Alien Invasion:** conspiracy theorists claim that SETI, a collective name for the search for extraterrestrial intelligence, has detected three large alien spacecrafts due to arrive on the Earth in 2012. Nope, didn’t happen.

5. **Geomagnetic Reversal:** a pole shift or geomagnetic reversal, a term used to refer to the reversal of the Earth’s magnetic south and north poles. To be triggered by a solar flare. Geomagnetic reversals take 1-10,000 years and don’t start on a particular date.



They are not periodic, nor are they triggered by solar flares.

6. **God’s Destructive Incarnation:** Indian mythology says that Lord Kalki, or the destructive incarnation of Lord Vishnu, will degenerate the Earth in 2012, marking the end of the final phase of time in Earth’s current cycle, known as the Kali Yuga.

No sign of the incarnation as yet.

7. **Timewave Zero:** a numerological formula claims that the universe will reach “Infinite Complexity” in 2012, ending in November on the anniversary of Hiroshima bombing.



As with all numerology, you can make numbers say what you want. The date was later shifted to December to match the Mayans.

9. **Photon Belt:** New Age believers say that belts or rings of photons are going to envelop the Earth causing apocalypse or a spiritual awakening. Photons forming belts is a physical impossibility, as photons always travel in straight lines.

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<input type="checkbox"/>	Sunday \$80.00 5 more stimulating speakers, including morning/afternoon tea and a delicious lunch.
<input type="checkbox"/>	Weekend (Early Bird) \$100.00 All 10 stimulating speakers, with morning/afternoon tea and a delicious lunch. This includes the Friday evening event, but not the Saturday evening dinner. (This early bird price is available until the end of September, at which point the price will increase to \$135)
<input type="checkbox"/>	Saturday Dinner \$65.00 A great meal and entertainment, along with announcement of the annual NZ Skeptics awards - including the Bent spoon and Skeptic of the Year.
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A/C Number: 11-7810-0185045-11
Statement References: Conference2015

You will be sent a confirmation email regarding your ticket purchase once your payment has gone through.

Lisa Taylor is an ESOL tutor and university student from Wellington. She is the Outreach Officer on the NZ Skeptics Committee. You can find her on the NZ Skeptics group on Facebook.



Science Based Healthcare (SBH) Activism based in Wellington and Auckland is a regular meeting for people who want to be involved in skeptical activism. The group spends an evening in a pub, working collaboratively on a skeptical subject of local (New Zealand) concern.

Fighting medical nonsense

Every second Thursday in Wellington a group of eager skeptics meet in a local pub and work on Advertising Standards Authority (ASA) complaints and other skeptical activism topics.

The Wellington group runs under the watchful guidance of Mark Honeychurch and Daniel Ryan. There is now also an Auckland group hosted by the knowledgeable Mark Hanna, which runs at the same time as the Wellington meeting. This timing allows for collaboration between the groups.

You can find the groups at sbh.nz/wlg and sbh.nz/aki – we are listed under *Science Based Healthcare Activism*, with the groups meeting from 6pm onwards. To come along you do not need to be a member of the Society for Science Based Healthcare, but you will need to sign up on MeetUp to RSVP. Attendance at the groups is usually between four and eight people, with each bringing their ideas for issues we can work on – along with laptops to edit documents and send off complaints.

While at a recent SBH Activism evening, I saw there had been an interesting and relevant post shared on the NZ Skeptics Facebook group. The post was talking about an advert run in a Christchurch newspaper by an Indian witchdoctor called “Sri Durga, Matha”. Other members of the group passed on the opportunity to submit an ASA complaint about this advert, so I took on the case.

The following excerpt is from the complaint I submitted to the ASA about the Sri Durga Matha newspaper

advertisement:

The newspaper advertisement for Sri Durga Matha Astrology Centre promoted palm reading, face reading and astrology. Various issues or conditions were contained in two boxes including: “marriage, sexual problem, sickness, Black Magic, Evil Spirits Drinking.” The advertisement stated: “100% guaranteed results. Any kind of problem can be solved within 3 days.”

The advert claims to have 100% success rates, this is not possible.

The problems seem to be solved through palm reading, face reading, horoscope reading and such techniques. This seems like an impossible feat. Not to mention that the success of using such techniques is dubious.

They claim that problems can be solved within 3 days, however the claimed problems on the advert - including “drinking problems”, “financial problems”... and so on. The spelling is preposterous, I don’t know exactly what is meant by “jalssy” (sic) or “anemy” (sic) does this mean jealousy? and enemy? Regardless of spelling, these problems do not seem to be things that can be treated and dealt with within three days!

Drinking problems - cannot be advertised about, as under Schedule one of the Medicines Act.

Strangely in this case the Advertiser didn’t even bother to respond to the complaint and the ASA Board ruled the

complaint to be Upheld. You can see the full outcome of my complaint at the Society's new ASA website: asa.sbh.nz/?complaint=15178

We have had some great successes within the Society with using ASA complaints to tackle some of the medical nonsense in New Zealand. An overview of the work done by us can be seen at asa.sbh.nz/?sbh

In all, over 200 complaints have been submitted by SBH members, with an 86% success rate of either Settled or Upheld complaints. A Settled complaint is one where the advertiser agrees to either remove or edit the advert to the satisfaction of the ASA, whereas an Upheld complaint is where the advertiser either doesn't make sufficient changes or doesn't make any changes at all, and the ASA asks the advertiser to remove the advert. We asked the ASA for a sample of the wording they use to ask an advertiser to remove an infringing advert, and they sent us this template:

In accordance with self-regulatory principles we request you to voluntarily withdraw the advertisement in its present form and to ensure that the material complained of does not appear in the future.

A couple of weeks after submitting my complaint, this issue reached the media with media reports talking of other witchdoctors based in Auckland. These "doctors" had quickly scarpared after taking thousands of dollars worth of people's life savings. They had been caught making false promises and various other fraudulent claims, leaving a devastating trail of heartbreak behind. □

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For more information about SBH, please visit sbh.nz

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*, the author of the [NeuroLogica Blog](#) and founder of Science-Based Medicine.



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Placebo by Conditioning



Truly understanding placebo effects (note the plural) is critical to science-based medicine.

Misconceptions about placebo effects are perhaps the common problem I encounter among otherwise-scientific professionals and science communicators.

The persistence of these misconceptions is due partly to the fact that false beliefs about placebos, namely that “the” placebo effect is mainly an expectation mind-over-matter effect, is deeply embedded in the culture. It is further exacerbated by recent attempts by CAM proponents to promote placebo-medicine, as their preferred treatments are increasingly being demonstrated to be nothing but placebos.

One idea that proponents of placebo medicine have tried to put forth is that you can have a placebo effect without deception. The study most often pointed to in order to support this claim is Ted Kaptchuk’s irritable bowel syndrome study. However, this study was flawed in that it told participants that placebos can heal, so it wasn’t exactly without deception.

The role of conditioning

A recent study published in the *Journal of Pain* focuses on conditioning as a component of placebo effects. The study design is interesting, but I have doubts about its applicability to the clinical setting.

The researchers used a heat model of pain applied to the forearm. They did various runs where participants reported their pain level in response to different temperatures. Their forearms were treated first either with a control cream (petroleum jelly) or a placebo cream (petroleum jelly plus blue food coloring). They were told the placebo cream contained a powerful analgesic that would block pain. The cream was then removed, and a hot stimulus applied.

When subjects were treated with the placebo cream they believed to be active, they were then tested, without their knowledge, with a warm but not painfully hot stimulus. This was meant to convince them that the placebo cream worked. (So again, the protocol used active deception to achieve its ends.)

One group of subjects experienced a single set of runs in this fashion. Another group experienced four sets of runs spread out over different days. Then finally came the test – all test subjects were told about the deception, that the placebo cream was inactive and in fact identical to the petroleum jelly except for the dye. They were then given another run with the control and placebo cream.

The researchers found that in the group that had the long run (four-day series) subjects still experienced reduced pain sensations with the placebo cream, but not the control cream. There was no difference for the short run (single day, single series) subjects. There were controls in place to rule out simple habituation to the stimulus as a factor.

What did we learn about managing pain clinically?

If we take the results of the study at face value, what do we learn? The study does not establish that you can have placebos without deception. The method used in this study depends explicitly on deception.

What the study does potentially show is that conditioning can play a role in placebo effects. This idea is nothing new, as conditioning has been on the list of placebo effects for years (certainly since I have been writing about placebo effects). The study does demonstrate that conditioning alone, without expectation of benefit, is sufficient to produce at least a temporary effect for a subjective symptom (pain, in this case). This is entirely unsurprising, but it's good to have an experimental verification.

Conditioning probably plays a significant role in many placebo rituals, such as acupuncture, or even non-placebo treatments such as taking medication or getting a valid medical procedure. The process of the treatment becomes associated in our minds with feeling better, and so experiencing the process makes us feel better. Perhaps the conditioned stimulus triggers the release of endorphins, for example.

The main limitation is that the conditioning in this case required a contrived situation, in which patients were deceived by receiving a non-painful stimulus they were told would be painful. They therefore attributed the lack of pain to the placebo analgesic. How would we apply this in the real world?

I suppose one way to accomplish a similar effect is to give the patient a real analgesic along with an associated placebo treatment. Then after sufficient time for conditioning to take place, give the placebo treatment without the analgesic. According to this study, however, you will have to secretly give them a real analgesic, an ethically dubious practice.

There are other ways to shift from active treatment to placebo, but they were not the subject of this study. Follow-up studies that attempt to remove all deception would be interesting.

Conclusion – What do we know about placebos?

Taken together, the scientific literature on placebos indicates that it is a complex assortment of various effects. These include conditioning, as well as reporting bias, statistical effects such as regression to the mean, confounding factors, observation bias, and other effects. Expectation of benefit is only one element, and is not necessary by itself.

Often the absence of expectation is used by the naïve public to argue that placebo effects are ruled out, but this is not true. For example, it is frequently argued that babies and animals cannot have placebo effects because they cannot have expectation, but there are many other sources of apparent placebo effects, as this study partly demonstrates.

We further know that placebo effects are only measurable for subjective outcomes. Placebo effects won't cure cancer or make you live longer. They may cause you

to report less pain or nausea, however. Whether you are actually experiencing less pain or just reporting less pain is unclear. Placebo effects are also short lived.

The ultimate question is whether or not placebo effects are clinically valuable and whether attempts to provoke them are worthwhile. My position is that they are of severely limited value, and are not worth compromising the relationship with the patient by incorporating deception into the treatment. It is certainly not worth instilling in the patient false and pseudoscientific ideas about health and medicine.

Any placebo effects worth having can be achieved with legitimate treatments given without deception to fully informed patients. □

'Slapping Therapy' for diabetes, and a child dies
More on CAM by Alison Campell

I've heard it said more than once that complementary and alternative medicine (CAM) 'does no harm'. I suppose that could be true of a healthy person using something like homeopathy, where the only harm is likely to be to their wallet. But time and again, forms of CAM have been shown to do harm, and now we hear of another tragic, and fatal, case.

In Sydney, a 7-year-old child with type I diabetes died following the use of 'slapping therapy'.

Chinese therapist Hongchi Xiao, who advocates the use of slapping therapy until patients are bruised to cure illnesses and rid the body of poisons, is now being investigated by police over the death.

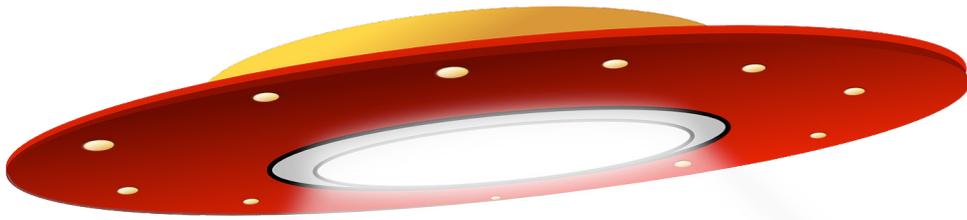
On what planet is it OK to slap a child until they are bruised, let alone to claim health benefits for this? If an adult is foolish enough to submit themselves to this (and to sustain this sort of damage), it's one thing; but a small child? And it seems it wasn't just slapping.

Participants in the seminar were asked to fast for three days and to undertake the slapping and stretching exercises that can prompt vomiting and dizzy spells, known as a "healing crisis".

Fasting? For a type I diabetic? Fasting while on medication can cause hypoglycaemia, which can be fatal if untreated. Fasting without insulin can result in diabetic ketoacidosis, which is also dangerous.

The 'healer', Hongchi Xiao, has apparently stated that "The greater the pain and bruises while slapping means there is more poison inside the body," and would seem to have developed quite a marketing empire around his bizarre claims, if a quick Google search is anything to go by.

Amazingly, it seems that after questioning by the Australian police, this charlatan was allowed to leave the country, and will doubtless continue to promote his nonsense elsewhere and to others. "Alternative medicine does no harm." Yeah, right.



No danger, Will Robinson but aliens *are* approaching...

Noel Townsley shares what he learnt at *UFOs and their Spiritual Mission*, a conference held by Share International NZ at Mt Eden Village Centre, Auckland.

As a child growing up, I used to watch *Lost in Space* on TV every week. Stranded on an alien planet thanks to Dr. Smith who sabotaged their spaceship, the Robinson family were visited each week by a different alien, usually one that was at least hostile, if not downright dangerous. The robot B9 had special sensors to detect the presence of aliens, and, as it so regularly did, would announce to the young Will Robinson “Danger, Danger, Will Robinson, alien approaching”.

It would seem, however, that B9 may have been programmed wrongly, and the aliens visiting us here on Earth mean us no harm, their only purpose to help us and help save the planet. Well, at least that is if the message being espoused by Share International NZ is to be believed – they say aliens should be revered, not feared.

Through friends living in Mt Eden, I heard about an upcoming evening of enlightenment by Share International NZ – *UFOs and their Spiritual Mission* – being held at the Mt Eden Village Centre, and decided to attend.

In a small room with about 20 others, we were given an auditory and visual introduction to Share’s beliefs and message for humanity. Basically it was two presentations – Megan, the first presenter talked more about UFOs and the world today; then Mike, in the second part, about their philosophy, meditation, and the future.

It seems Share International, a registered Charitable Trust, knows that aliens are friendly and are only here to help us as Maitreya (an alien) and self-proclaimed ‘World

Teacher’, informs us of all this through his only earthly spokesperson, Benjamin Creme, a 92-year-old Scottish painter, now residing in London. Maitreya communicates with Benjamin telepathically, and apparently is living undetected somewhere in London at this very moment.

The presentation started with an introduction about UFOs – how pilots have known about them for decades, but how they are “covered up” by governments who don’t want us to know about them. It would seem they haven’t succeeded.

The real UFOs (as opposed to the imaginary ones) that people have seen, are our “space brothers and sisters” who come mostly from Venus, although not exclusively so, as all the planets have beings living on them, with nine billion on Mars alone.

You may have been wondering, like me, how it is that NASA’s rover explorers, wandering the surface of Mars for some years now, have never bumped into any of these nine

“ It seems that Share International, a registered Charitable Trust, knows that aliens are friendly and are only here to help us. ”

billion Martians? Well, it seems that there are four etheric planes, all of which are conveniently

undetectable with our current technology. The closest we have come at the moment is with the Hadron Collider, which is coming close to detecting the lowest of these four levels.

So, the nine billion Martians are all there, along with all the plants and animals that you would expect there to be to support this life, but they are all on these invisible etheric levels, so we can’t see them. The same is true on the somewhat more hostile environments of Venus and

Mercury – they are all there on the etheric level. And with an average temperature of 462°C on Venus, it is hard to see how anything could survive there at any other level. However, on Jupiter for some reason it is too harsh an environment, so there they are living on Jupiter’s moons instead.

Mars is also the home of the spaceship builders – most of the spaceships we see, and don’t see, are made there. Some of these ships are kilometres long. No factories large enough to build these have so far been seen on Mars on any of the previous NASA unmanned probes, which you would think would be pretty easy to spot, so presumably these are also in the etheric level. How the ships are invisible on Mars, but become detectable, physical, and visible here on Earth was never explained.

Alien abductions were also mentioned. These seem to fall into two categories: abductees whose stories fit Share International’s view of peaceful aliens and so are believable; and those who haven’t actually been abducted at all, but are the result of the person having either an overactive imagination, or having suffered from some trauma. It should be noted that the real abductees are not taken up into a spaceship physically, but ethereally, so they would actually still be here on Earth, maybe in bed asleep.

Cow mutilations also came in for attention. Popular in rural America, they are not the work of our friendly space brothers, but those of a secret government department whose job it is to spread misinformation, presumably to keep us believing in our political leaders and not attempting to snuggle up to an alien from Venus.

The space brothers also get a lot of bad press from Hollywood and sci-fi writers, making their job of bringing their universal messages that much more difficult. We were told they are not busy experimenting on us using anal probes as some have claimed, but instead are highly intelligent, compassionate and wise beings who bring us only good tidings.

We were shown a series of photographs, the first of Mt Fuji with an interesting-shaped single cloud over the cone. Several kilometres across, this apparently was not a cloud but a spaceship from Jupiter cunningly disguised as a cloud. We know this as Benjamin Creme had a (telepathic) word with Maitreya, who confirmed this to be the case. Apparently our space brothers are careful to whom they show themselves, so as not to cause panic and fear.

Several other photos of spaceships in different shapes were also shown, as well as bright objects filmed in the sky, all of which have been confirmed with Maitreya to be spaceships from different planets. It should be noted that these spaceships we see are all from our own solar system, and we are not being visited by aliens from worlds beyond these.

There are apparently thousands of UFO bases around the world, but understandably these are kept very discreet so as not to worry the public. There may be one near you right now that you didn’t know existed.

Crop circles are also a sign from our space brothers. Although appearing in other parts of the world, they are mostly seen in Wiltshire, England. Despite Doug and Dave famously coming forward to say that they and other hoaxers had been responsible for the circles, it seems they are merely government lackeys, pawns used to divert attention away from their real purpose, which is the space brothers telling us that Maitreya is alive and well and living in London – at least this is so according to Benjamin Creme again. Maybe a banner in the high street might have worked better?

These crop circles are done along energy lines – energy lines that we can’t detect at the moment, but will become important to us in the future.

How do we know the space brothers exist?

One in particular, Maitreya, has been in constant telepathic communication with Benjamin Creme for many years. We know this because Benjamin has told us.

And world religions, who know him variously as Jesus, Krishna, Imam Mahdi, or the Messiah, have been expecting him for a very long time. At this stage they just haven’t realised their expectant leader is already here.

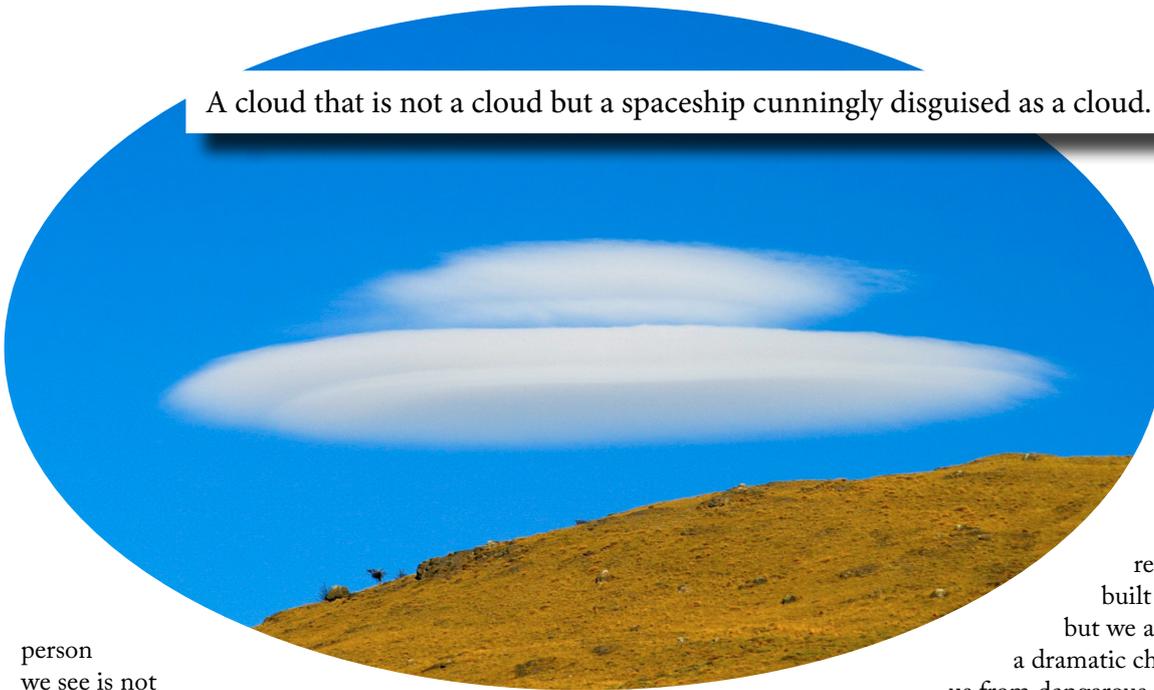
George Adamski, back in the 1950s, was apparently an earlier recipient of the space brother’s revelations. A search on the Internet reveals some uncharitable individuals described him as a charlatan and a conman; but in George’s 1950s claims he said he had been on these spaceships, and further, claimed to have travelled to the far side of the moon where he saw whole cities. It was explained that George travelled to the spaceship ethereally.

Men have since landed on the moon; but earlier than George’s claims, both Russia and the US sent probes and saw the far side of the moon, which revealed it to be like the side we normally view. So, either the two countries are both involved in a cover-up, or the cities exist on one of those illusive ethereal levels.

As well as the somewhat cryptic crop circles, Maitreya has also revealed through Benjamin that there are four “stars”, roughly east, west, north and south (not sure of what point on a rotating earth), but within our atmosphere, which will help with proof if it was needed. These are not really stars, of course, but spaceships the size of several rugby fields and filled with other space brothers. Unlike stars, they will appear fuzzy, changing shape, colour and size quite rapidly while remaining in the same place. NASA and astronomers around the world have failed to find them, or if they have they aren’t telling; but thanks to some amateur UFO footage on YouTube, Benjamin has confirmed that several of these sightings are in fact the four spaceships in question.

Benjamin has also revealed that Maitreya has been on TV in the US, Japan, and China speaking to an audience of millions. Of course he hasn’t come out and revealed himself as such, that would cause panic, so it is up to us as individuals to slowly come to the realisation that the

A cloud that is not a cloud but a spaceship cunningly disguised as a cloud.



person
we see is not
whoever they appear
to be, but instead, is Maitreya.

Even God gets help from the space brothers it would seem – the Star of Bethlehem was actually a spaceship, guiding the Wise Men to find the baby Jesus, so Maitreya has revealed to Benjamin.

leaders sign an
agreement
never to go
to war again.
Currently we
don't have the
technology to
measure this
energy which
comes from
the crop circles –
remember they are
built on energy lines –
but we are told it will make
a dramatic change to us, freeing
us from dangerous nuclear fission, and

allowing us to harness the comparatively safe
cold fusion process, thus curbing our current polluting
ways. Once we have the knowledge (apparently currently
being suppressed by the power companies) from our space
brothers, we will be able to create sustainable energy from
isotopes of water.

What the space brothers will, and are currently, doing for us

We were told that the space brothers – incredibly evolved beings that are technologically about 1000 years ahead of us – are not here to take leadership, or even to influence us, as this is contrary to the Universal Law of Free Will. They are simply here to keep an eye on us, and in our own time, reveal the true state of our solar system to us.

From the Share International website:

Between 1977 and 1982, Maitreya telepathically communicated fragments of his teachings to Benjamin Creme at Creme's regular public meetings in London. A recurrent theme was the need to end the suffering of millions of people who go hungry or starve in our world, which actually has a surplus of food. This imbalance is one of the primary reasons why Maitreya returns at this time.

The space brothers have a deep concern for the way we have been polluting the planet, with CO₂ emissions causing global warming. This is known as the Universal Law of Cause and Effect. Our use of nuclear power is also a major concern to them; in fact if it weren't for them busily mopping up 80% of the nuclear waste we have burdened this planet with already, by now Earth would have been uninhabitable. Of course this toxic waste is not found at the current lower level of understanding that we have, since we could measure that; but this is the waste that has made it to the higher ethereal level.

In time, the space brothers will reveal the universal Technology of Light to us just as soon as all the world's

What is Share International doing to assist in this process?

Currently, apart from helping to spread the word that the space brothers cometh, Share International meets every Sunday evening at 6pm to practice Transmission Meditation. This is to help channel universal energy which would otherwise be lost to humanity. Apparently the group acts as a form of step-down transformer, converting these massive cosmic energies into a form that can be used by us.

They do this by way of a chant, and then move this soul level energy from the aagya chakra (between the eyes) through their other chakras in their bodies, and then from there it is dispersed mainly to humanitarian groups at this stage.

Transmitting the energy this way is quite safe, as it is controlled by the Masters, who, being scientists themselves, know that the chakras when stimulated "scientifically" are quite safe for us. Join a local group near you today and you can start charging up the earth.

The hand of Maitreya

In 2001 the hand of Maitreya, apparently appeared on a mirror in Barcelona. The female owner went into the guest bathroom of the house and saw a handprint on the mirror and cleaned it off. A few days later she saw the same handprint on her own bathroom mirror. Instead of wiping it off, or having a quiet word with her cleaner, this time she got in touch with her son, coincidentally a member of Share International. He took a picture of it and

sent it to Benjamin Creme, who confirmed with Maitreya, that it was indeed his hand print. It was explained that this was the closest Maitreya could come to revealing himself to humanity without an invitation. According to Share International's website this image, supposedly with holographic properties, claims to also have extraordinary healing properties:

In the case of the healing waters Maitreya has magnetized all over the world, the water itself is imbued with energy from the constellation Aquarius. However, in the case of the image of Maitreya's hand, the energy does not reside in the photo, but is invoked from Maitreya when you place your hand over the image or simply look at it. You are, in effect, calling forth his healing or blessing or help – whatever is possible within the karmic law. The same effect can be produced even with a photocopy of the image.

It is a window to Maitreya. Luckily, we live in an age of photocopiers, so we can all get in touch with him if we need to.

How will we know Maitreya?

Mike, the second presenter, talked about the coming of Maitreya. Currently there are 63 other Masters working with humanity behind the scenes and 40 have been preparing to emerge and work with humanity, 15 of which have currently taken up their positions in different cities around the world, such as LA, New York and Darjeeling, with the Master Jesus, “understandably, taking up a position in Rome. These 40 will work with initiates and disciples – some of whom currently don't know they are disciples – to start building a better world.

Maitreya, the most advanced of these Masters, who has been around for millions of years and wishes only to be known as The Teacher, will eventually reveal himself to us. In 1977 he transitioned to this world in Pakistan, and now resides in London. We have just come out of the Age of Pisces which spanned the last 2600 years, a period where we came to know ourselves as individuals, and which has left us with a legacy of our selfishness; but the good news is we have now entered the Age of Aquarius, which will continue for the next 2200 years. This means we will leave behind the spiritual crisis we currently find ourselves in, due to our current materialistic egocentric ways, and will pave the way for a more humanitarian future, where we can better understand the world and how we are connected to it, and for us to recognise Maitreya.

Maitreya will reveal himself to us just as soon as we have all come to recognise the currently unknown individual appearing on TV around the world who is not just an average human being, but is in fact Maitreya. Benjamin Creme has advised he is here, some have recognised him, but Ben is sworn to secrecy, so will neither confirm nor deny to any of those people if they are correct.

We must all come to this conclusion on our own.

What of the future when all is revealed?

So, as soon as we all come to the realisation we are one big global family and that Maitreya is here and we ask for his help, he will reveal himself to everyone in the world over the age of 14 at the same time – this will be the Day of Declaration. He will talk to everyone telepathically, revealing to us some of his experience and wisdom. This “Christ Principle” they call it, will flow to everyone, and at the same time many thousands of miraculous cures will take place.

We can then expect the evil stock market to collapse, and an end to our current egocentric behaviour. And the United Nations will become overseers of world resources, where countries with a surplus will share their excess for free with the countries that require it. And with the help of the space brothers, their revelations on sustainable energy will mean an end to nuclear reactors and weapons. A new era of peace, love and happiness will emerge.

Do I still need convincing?

If you were to ask me if I believed that there was the possibility of life in the universe beyond our planet, I would have to say ‘Yes’. But, do I believe the Earth is some sort of Grand Central Station on a cosmic highway with millions of visitations each year from ethereal Martians and Venusians? The answer is “No”.

To me the whole presentation seemed to be a one-size-fits-all approach, with a mix of warnings to us of

the dangers of things like nuclear power and pollution like many a 1950s sci-fi movie, mixed with a smattering of bits from different religions,

with some New Age mumbo-jumbo thrown in to make it appeal to many, and all topped off with secret government departments trying to suppress the truth.

I am also deeply suspicious of anyone who claims to be the sole messenger of another invisible and otherwise uncontactable entity, the only proof being their word, as in the case of Benjamin Creme, who can conveniently confirm his own stories with nary a murmur from his devoted followers.

There also seems to be a contradiction with the claim that the space brothers don't want to influence us in any way, but then want to warn us and reveal their secrets to us – secrets that would provide “free” energy. If that doesn't influence things, I don't know what will. And to get all this, all we have to do is get all the world leaders to sign a peace agreement? This should ensure Benjamin does not have to produce Maitreya for many years to come.

Finally, if Maitreya is that concerned about the immediate future of our planet as claimed, what is he waiting for? He might have been around for millions of years, but if his predictions of impending doom are correct, we can't wait much longer. □



Dr. Siouxsie Wiles describes herself as a microbiologist and bioluminescence enthusiast but to others she is “the owner of the pinkest head of hair you’ll ever see”. Siouxsie heads the Bioluminescent Superbugs Group at the University of Auckland where she combines her twin passions to understand and combat infectious diseases.

Read her blog *Infectious Thoughts* at sciblogs.co.nz/infectious-thoughts/

to human communication. This region corresponds to a perception of sound called roughness, which is thought to be unpleasant.

The researchers took 19 people and recorded them either screaming or saying a sentence and then analysed the sounds using the MPS technique. They found the screamed versions occupied this rough space, suggesting this zone is used to convey danger. They then analysed musical instruments and artificial alarm signals like buzzers and horns, and found the alarm signals used used this rough zone.

Next they asked volunteers to rate the fear induced by different screams and vocalisations after either adding or taking away roughness. Filtering roughness from screams made them less fearful, and adding roughness to vocalisations made them more fearful. Similarly they asked volunteers to rate the levels of

What makes a scream alarming?

Researchers from Switzerland and Germany have just published a paper in which they describe using brain imaging and a cool way of looking at sound, called the modulation power spectrum (MPS) to understand just why screams are so alarming. Rather than looking at the amplitude and frequency of sounds over time, the MPS plots the modulation frequency against the number of cycles per octave, shown as a kind of heat map. On this kind of spectrum, there is a clear zone that gives clues to the gender of the speaker, and another distinct zone that gives information about meaning. But there is also a zone that until now hadn't been associated with any function. In fact, it has been thought to be irrelevant

alarm induced by artificial noises after either adding or taking away roughness. Filtering roughness made sounds less alarming, and adding roughness made them more alarming.

And here's something else interestingly. The rougher the sound, the quicker the participants reacted. The researchers also found that people could determine where the rough sounds were coming from quicker and more accurately too.

Imaging people's brains while they were listening to the different sounds, they also found that instead of stimulating the auditory cortex, rough sounds stimulated the parts of the brain involved in processing fear and danger – the amygdala.

So in summary, screams occupy a special auditory space which cuts straight to the fear/danger processing parts of the brain, making us respond to them faster and more accurately.

Clever. □



Alison Campbell has expertise in the disparate fields of animal behaviour and science education, with a particular interest in students' understanding of the language of science; gaps in student knowledge (and how to bridge them); and attitudes to the theory of evolution. Read her BioBlog at sci.waikato.ac.nz/bioblog/



Fighting superbugs with pheromones

Pheromones. I'll admit that when I hear the word, I immediately think of sex. That's probably because the first pheromone ever discovered, in 1959, was the chemical that female silkworm moths use to attract a mate. Since then, sex pheromones have been identified in many species, from insects to fungi to birds.

But according to Wikipedia, a pheromone is just a chemical that is "capable of acting outside the body of the secreting individual to impact the behavior of the receiving individual". And it's not just about attracting mates.

Pheromones can also be used to signal others of danger, to lay a trail for others to follow, or even to mark out territory.

In the bacterium *Enterococcus faecalis*, pheromones have just been discovered that allow harmless commensal strains to 'kill' their more harmful antibiotic-resistant forms.

E. faecalis is a common commensal bacterium of the human gut. But it can also cause nasty infections in hospital patients, from blood poisoning to meningitis. People who have been on antibiotics, which kill off their normal gut bacteria, often become colonised with these more harmful *E. faecalis* strains which are also usually also antibiotic-resistant.

It's long been known that commensal strains of *E. faecalis* have smaller genomes than the harmful superbug strains. To find out whether the larger genome of the superbugs gave them a growth advantage, Michael Gilmore and

colleagues tried out an interesting experiment. They grew commensal or superbug strains of *E. faecalis* in the presence of stool samples from healthy volunteers. Interestingly, the superbug strain didn't survive very well, whereas the commensal strain was just fine.

It turned out the healthy stool samples contained another commensal strain of *E. faecalis*, which the researchers isolated and called Pan7, and which could also kill the superbug strain. *E. faecalis* is known to make pheromones, so the researchers decided to see if they could be responsible for the killing effect. A quick search of the *E. faecalis* genome identified 81 potential pheromones so the researchers made synthetic versions of them all and tested them for their ability to kill the superbug version of the bacterium.

Three of these synthetic pheromones worked, one of them, called cOB1, especially well. Knocking out the gene that commensal *E. faecalis* uses to make cOB1 meant it lost its ability to kill its superbug 'sibling'.

Gilmore and colleagues are still trying to figure out exactly how cOB1 kills superbug strains of *E. faecalis*, but it's interesting to speculate whether such a pheromone could one day be used to treat people infected with antibiotic-resistant *E. faecalis*. What I do know for sure, though, is that I'll never think about pheromones in quite the same way again! □

Q & A

MEET ONE OF THE ROGUES FROM THE SGU

Bob Novella

Bob Novella is a co-founder and Vice-President of the New England Skeptical Society. He co-hosts the *Skeptics' Guide to the Universe* podcast and blogs for SGU's *Rogues Gallery*. He has also written numerous articles that are widely published in skeptical literature.

In 2014, NZ Skeptics had the pleasure of hosting the rogues of *The Skeptics' Guide to the Universe* podcast at the NZ Skeptics Conference. As they say on their show, here's a quickie with Bob.

Q: How did you first get involved in the skeptical movement?

I first got involved in the skeptical movement in the mid 1990s (before the World Wide Web was a thing) when we realized that the list of local skeptical organisations in the back of the *Skeptical Inquirer* did not show an entry for our state. We created the Connecticut Skeptical Society and started making a quarterly newsletter (*The New England Journal of Skepticism*). This quickly led to the New England Skeptical Society (The NESS) with chapters in each New England State and a quarterly meetings for socializing and talks. Kind of a Skeptics in the Pub except in a library and no booze.

Q: Why do you think the skeptical movement is so important?

The skeptical movement is important because the critical thinking skills it instills are increasingly vital in our complicated society awash with mountains of poor-quality/misleading/fabricated information. These skills help us navigate through this torrent of pseudo-information (as well as everyday social interactions) and help separate reliable information from useless or even harmful information.

Q: Tell us about some of the projects you're currently involved in.

We recently completed (with the NY City Skeptics) our annual NECSS conference in New York which was a resounding success. We are now focused on preparing

for our 10-year SGU anniversary show which will be a marathon 10-hour video podcast, live-streamed on May 2nd. We are also working with volunteers to help enact Anti-SLAPP legislation in as many states as possible. This will give bloggers the freedom to express their opinions online without the threat of overwhelming court costs to defend their freedom of speech.

Q: What are your skeptical 'pet peeves' and why?

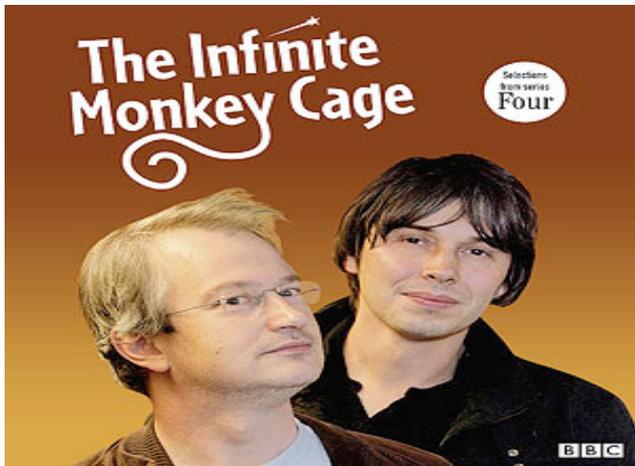
My biggest skeptical pet-peeve is the use of the word quantum (...cough Chopra...cough) to support all sorts of crazy pseudo-scientific nonsense. It's true that Quantum Mechanics is incredibly counter-intuitive and, dare I say, seemingly magical, but it is also a thoroughly tested and widely accepted representation of phenomena at extremely tiny scales. That doesn't mean you can use it to support crank theories that have no connection to real quantum mechanics other than the bizarreness of their claims.

Q: If you could give one piece of advice to skeptics, what would it be?

One piece of advice I'd give to skeptics is to not only focus outwards, confronting pseudoscience, identifying logical fallacies, examining evidence etc. It's just as critical and much harder to consistently turn that focus inwards onto our own sacred cows and to recognise that even the best skeptics have biases and fallible perceptions that need to be recognised and minimised. □

Review: PODCAST 

THE INFINITE MONKEY CAGE



When is a strawberry dead?

One of my favourite podcasts is this seasonal offering from British skeptical activists and science communicators Brian Cox and Robin Ince. This is a BBC Radio 4 production – ooh get me! – but the podcast version is 10 minutes longer. As Robin says, “this show contains extra material which wasn’t considered good enough for the radio.” In exactly that sort of way, Robin provides the banter and

is the gleeful layman. Brian, on the other hand, brings it all back to reality, reining-in tangents and correcting any guest who dares oversimplify a bit of physics.

Their guests, who are usually a mix of scientists and comedians (or wizards*) are selected based on the week’s topic of choice e.g. forensic science. The mix of guests is always a bit of a risk though: mostly they gel but sometimes they don’t. And sometimes I wish it all didn’t feel so rushed, due probably to BBC scheduling.

As someone who’s married to someone who can’t quite abide Brian Cox, it is refreshing to hear him take a lot of good-natured ribbing regarding his high-profile documentaries. Robin’s banter returns often to Brian’s voice, his hair or documentary footage of him walking down a volcano. He always laughs it off.

By turns hilarious, skeptical and riddled with in-jokes, this podcast gives the impression of being both well-planned and off-the-rails at the same time. Highly recommended, but possibly an acquired taste for some. It is very British.

*Alan Moore

Review: FILM 

EX MACHINA

Released 2015

Directed by Alex Garland

Starring Alicia Vikander, Domhnall Gleeson and Oscar Isaac

Running time: 1 hour 50 minutes

Directorial debut by Alex Garland (*The Beach*, *28 Days Later*, *Sunshine*), this movie is a contemplative exploration into ideas around artificial intelligence and what it means to be human.

The movie follows Caleb, a young man who ostensibly wins a competition to visit the compound-like home of genius billionaire recluse, Nathan. Caleb is introduced to Nathan’s latest invention, Ava. To say much more about the plot would be a spoiler.

Whilst this movie is science-fiction, the world created in the film is very much today’s world, or the very near future. The only ‘futuristic’ element is Ava. This has the effect of drawing you into a world that seems very believable. You almost wouldn’t be surprised if something like this movie actually happens in three to five years.

Ex Machina is low-key and steady-paced, the plot driven on by the conversations between Caleb and Nathan, and Caleb and Ava. If you like your sci-fi more cerebral and true to reality (ie. not *Terminator*), then this movie might be your cup of tea.

This review was written by a human being. □



WELLINGTON

Follow the Wellington Skeptics Facebook Page

Sign up to meetup.com/Wellington-Skeptics-in-the-Pub/

Wellington Skeptics in the Pub

When: Every second Friday, 6pm

Where: Kitty O'Sheas

Wellington SBH Activism

When: Every second Thursday, 6pm

Where: Fork and Brewer



AUCKLAND

Follow the Auckland Skeptics Facebook Page

Auckland Skeptics in the Pub

meetup.com/Auckland-Skeptics-in-the-Pub/

Auckland SBH Activism

When: Every second Thursday, 6pm

Where: Rationalist House



SitP across NZ

Dunedin

When: Every third Wednesday of the month, 7pm

Where: Dog With Two Tails Cafe

meetup.com/Dunedin-Skeptics-in-the-Pub/

Palmerston North

meetup.com/Palmerston-North-SitP/

Napier

skeptics.meetup.com/cities/nz/napier/

Hamilton

meetup.com/Hamilton-Skeptics-in-the-Pub/

Sign up to MeetUp to find out more about events happening in your area.

Want to join NZ Skeptics or renew your membership?

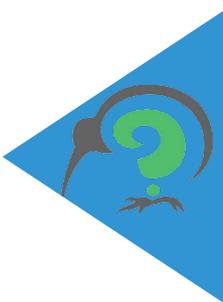
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Remember to fill in the form on p.10 or go to conference.skeptics.nz to get tickets to this year's Skeptics Conference in Christchurch. 20-22 November 2015, don't miss out!

Reality provides us with facts so romantic that
imagination itself could add nothing to them.
-Jules Verne



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