

Skeptic

a person in a state of terminal caution

Margaret Mahy

Limits to growth

Ghost photography

Australia's ceremony country

Kelvin Cruickshank back on the road

new zealand Skeptic

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Modern Version
These modern versions of Marriage (left),

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Contributions

Contributions are welcome and should be sent to:

David Riddell
122 Woodlands Rd
RD1 Hamilton
Email: number8@ihug.co.nz

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Room for all in discussion group

THE nzskeptics Yahoo discussion group has been very busy of late, with December 2009 registering more than 300 new messages – the largest number in the almost five years of the group's existence. In large measure this has been thanks to contributions from a couple of participants who hold views which I would assume most of our members don't share.

One of these was a scientologist, the other a chiropractor. Topics discussed ranged beyond the core concerns of these two camps into Chinese medicine, psychiatry, evolution and the nature of the soul.

Although the tone sometimes veered towards exasperation, the debates with one or two exceptions were generally conducted in good spirit, and didn't degenerate into the flame wars that internet discussions are notorious for. A good thing too – when scientologists and chiropractors make their presence known on the group, it's a reminder that it is open to anyone who cares to sign up. Skeptics are on public display, and some will judge the society by the way a few individuals behave.

The flurry of activity seems to be dying down again, at least for the time being. Ultimately fatigue sets in, as entrenched positions show no signs of shifting, and one by one people drop out. But discussions like these are still worthwhile. While occasionally frustrating, they serve the function of giving participants the chance to hone their arguments, and to examine issues from perspectives they may not have considered, as well as providing a stimulus to further reading and research. Many more read than actively take part, and derive some pleasure from following the exchanges – although my mailer's Deleted folder currently has a stack of 32 unread messages with the subject line 'Chiropractors'. There are only so many hours in a day, after all.

A group where everyone held similar views would get boring very quickly. nzskeptics, for now, is working well, and has become a valuable extension of the society's activities. Thanks are due to Simon Clendon for getting it up and running and maintaining it.

And Kevin, Justin, and all the other regulars on nzskeptics, your contributions are appreciated too.



Apocalypse soon: Unwarranted skepticism and the growth fetish

John Robinson

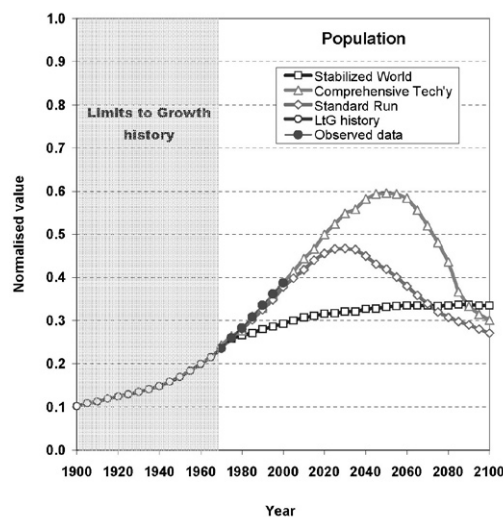
The dire predictions of the Club of Rome's 1972 report on The Limits to Growth have supposedly been refuted by subsequent studies, but the refutations have serious shortcomings. This article is based on a presentation to the NZ Skeptics 2009 conference in Wellington, 26 September.

WE belong to a species that dominates the planet. After millennia of steady growth which have altered regional environments and killed off many species, the human population has exploded during one lifetime. Whereas it took millennia to reach the first billion, the human population tripled in 140 years to three billion by 1960, and is currently trebling again in just 80 years, to nine billion in 2040. We have become a plague.

Many scientists, including myself, have been concerned with this picture. There is considerable evidence describing an overpopulated world, threatened by food and water shortages, a shortage of oil supplies, and huge changes due to global warming. Consider the message in the figure on the right, which adds more recent data to the Limits to Growth forecasts of Meadows et al (1972) for the Club of Rome's Project on the Predicament of Mankind. World population may hit a peak around 2040-2050 and then rapidly decline. My own research, including work with a number of international forecasting projects, suggests that the

peak will happen sooner, around 2030.

This model was based on a considerable body of research and is supported by many other more detailed studies. Here we have a picture of a world in which population may plummet following an overshoot-and-decline pattern when limits are passed.



Projected changes in human populations under various scenarios: so far actual growth since 1972 is right on track.

I looked at this some 35 years ago with the eyes of an applied mathematician. I had seen that a model can capture the essence of a situation and provide realistic guidance, just so long as the model is based on the key

aspects of a greater complexity. The thought of possible global collapse within one lifetime impressed me and I set off on a new career. I have found that the picture based on physical science can readily be fleshed out by reference to past historical events. It is easy to foresee the repetition of population collapse, social breakdown and war.

So here am I proclaiming apocalypse in just 20 years. What do you make of it? Either I am mistaken or society is just a little bit crazy. J B Priestley made this point in relation to William Blake:

“And no doubt those who believe that the society we have created during the last hundred and fifty years is essentially sound and healthy will continue to believe, if they ever think about him, that Blake was insane. But there is more profit for mind and soul in believing our society to be increasingly insane, and Blake (as the few who knew him well always declared) to be sound and healthy.”

I introduce this point as I have been treated as a pariah for taking up an extremely important scientific endeavour. Should you be sceptical of those like me who talk of impending catastrophe?

Certainly, but consider the alternative which is to put your faith in those who have dismissed the reality of a finite Earth. *The Limits to Growth* was the subject of widespread denunciation by the supporters of status quo economic growth. Let's look at the validity of some of the critics; we at the DSIR considered many and found some bizarre arguments.

One key critique was a 1977 Report to the United Nations, *The Future of the World Economy*, by a team headed by Nobel Prize-winning economist Vassily Leontief. The Dominion reported that:

"Among the most significant aspects of the study are its rejection of predictions by the Club of Rome that the world will run out of resources and choke on its pollution if it continues to expand its economy."

The summary of the report emphasised this theme:

"No insurmountable physical barriers exist within the twentieth century to the accelerated development of the developing regions."

Read that carefully. It says "in the twentieth century". *The Limits to Growth's* authors made a forecast of a possible calamitous population collapse around 2050 – not within the twentieth century. By stopping their model 50 years before, in 2000, the UN team made quite sure that they avoided any possibility of such an event. In fact, as far as they went, their forecasts are very similar to those of *The Limits to Growth*.

Such sleight of hand is not uncommon. In 1978 I worked

for six months with the OECD Interfutures project. While I was able to study an extensive collection of input information, I had no real part in the analysis, which was dominated by a small

It is ... like the fellow falling off a building who felt that all was well as he sailed down, before he reached the pavement.

core group. The 1979 report includes a claim that would be satisfactory to the clients, the wealthy nations of the world:

"Economic growth may continue during the next half-century in all the countries of the world without encountering insurmountable long-term physical limits at the global level."

There are two reasons why this statement is misleading. Firstly, all their many computer model calculations stopped in 2000 and did not reach out that far, so this is not in any way based on the work of so many of us in this project. Secondly, they look ahead for just 50 years, thus stopping short of 2050, the forecast time for crisis. It is always easy to dodge a crisis by stopping short of the due date, like the fellow falling off a building who felt that all was well as he sailed down, before he reached the pavement. They knew what *The Limits to Growth* forecast; they knew what they were doing.

These are examples of the way in which organisations employ expertise to generate desired results and make unjustified claims. Many readers will be

sceptical of the warnings of approaching limits. Such scepticism may be better applied to many of the arguments for continuation of growth; here is a New Zealand example.

In 1990 the Planning Council published a report, *The fully employed high income society* (Rose 1990), which received nationwide publicity due to its suggestion that sustainable full employment with full incomes was possible by 1995 due to high rates of productivity increase – but otherwise continuing current policies.

When I read the document carefully I found some very questionable points:

(a) Estimates of employment requirements commenced in 1988 and ignored the significant loss of jobs between that date and 1990.

(b) Modelling of productivity increases commenced with modelling which has proved unrealistic and overly optimistic, and assumed a further doubling of productivity.

(c) The model run commenced in 1984 with these increases in productivity in order to generate an optimistic result in 1995, thus ignoring the negative experiences of 1984-90.

(d) The model was instructed to produce full employment by 1995 – this was not a consequence of the modelling based on policy changes as represented by input parameters.

(e) Full employment was completely generated by additional capital investment.

The model failed the most basic scientific test of forecasting even before it was published. In the four years from 1986, the date one model run commenced, to 1990, the date of the report, the model had suggested an increase in employment of 38,000, whereas the actual experience was of a fall of 90,000. Nor was that followed by a fully employed society – indeed unemployment was 11 percent in 1991.

The main feature of this work was a failure to produce the required result of full employment within realistic model parameters. The correct process would then have been to report that finding, which would have been in line with what actually happened, but they chose to tweak the model by the introduction of massive capital investment. This artificial process forced the model to say what was wanted and the result was then widely publicised.

Whereas the growth merchants have feet of clay, the limits forecasts from the 1970s hold up well when put to the test. When in 2008 the CSIRO (noted above) returned to the 1972 forecasts of *The Limits to Growth* and considered whether the real world had followed the forecast trends, the results were convincing. They considered measures of population (birth rates, death rates and population growth), food (and food per capita), services (basic education, electricity and suchlike), industrial output per capita, non-renewable resources and global pollution. All were tracking along the

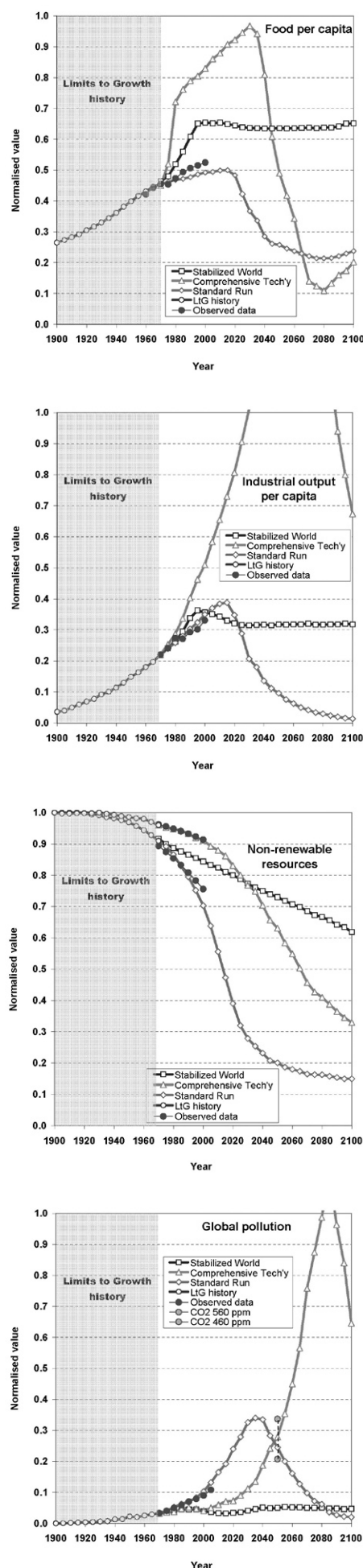
forecast paths towards the coming crisis.

The graph of population on page 3 is typical. These further graphs (right) of food and industrial output per capita, non-renewable resources and global persistent pollution show the same correlation between forecast and observation.

Data since 1972 follow the standard run closely, and do not deviate to follow alternative paths. This result echoes a study I carried out in 2000, when I found that my worrying picture built up around 1980 was robust. Trends have been intriguingly following the expected pattern, including more recently the 2008 oil peak and economic collapse, galloping global warming and the appearance of boat people off the Australian coast.

When I studied the futures literature back in 2000 I found two very different dominant themes. Each followed observed trends and each could describe features of the coming decades. Some of the articles suggested the possibility of food shortages, which would exacerbate the considerable inequalities observed today. That negative scenario may be exacerbated by water shortages and climate change. However a much more prevalent picture was of increasing human capabilities, new technologies and wealth.

No choice is needed; both sets of forecasts may prove robust, as existing trends take different regions or different groups along very different paths. There is then the possibility of the coexistence of two very



different societies in the future. This is quite likely; after all it was like that in mediaeval times and in eighteenth and nineteenth century Europe, and this is the reality in many parts of the world today.

I have described the application of the scientific method to long-term forecasting. This is the way a scientist operates, in a search for the truth. An opposite process is followed in economics, where false analyses are widely publicised, and the fit of forecast to reality is ignored. New Zealand discourse is dominated by shonky science. The key work on global crisis comes from the Australian CSIRO while the DSIR, where I started my work, is no more. Here science is in a straitjacket of controls, totally gutted. In a recent round of grants eight out of nine applications were turned

down, and initiative is killed as scientists waste time writing proposals for guaranteed results rather than asking questions and exploring the world. The human cost has also been enormous with the crushing of the lively, questioning spirit in true science. The fun of science is gone. Sadly the spokesman for the scientific community, the Royal Society (RSNZ) is quiescent.

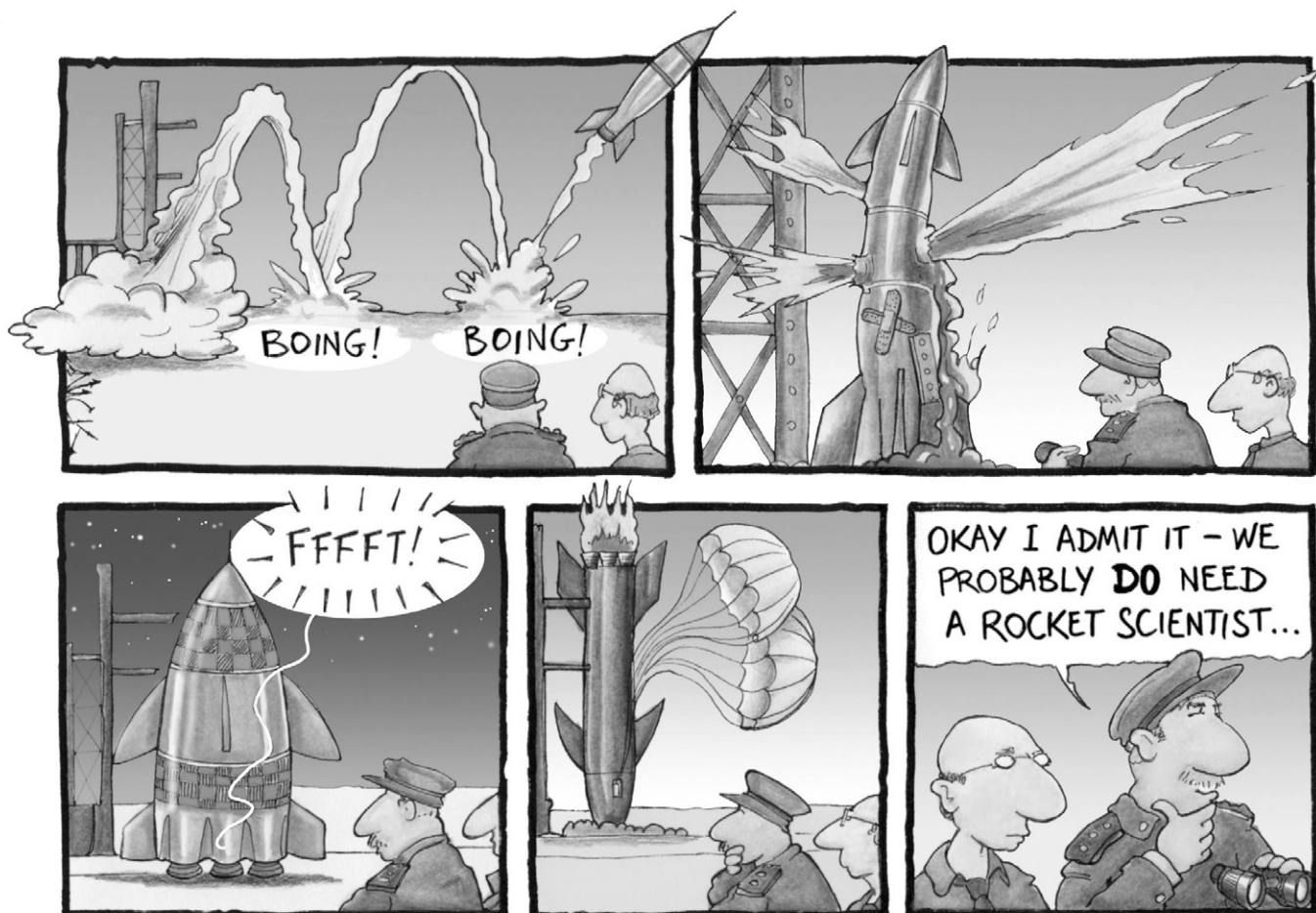
Even in economics much more can be done. In 1989 I was able to foresee the collapsing system we have now. Sometimes I dream that we can recover the spirit of the 1970s when the debate was well-informed, when an initiative in the DSIR was supported and the Commission for the Future was set up. It is nowhere on the horizon. This is a country that is deep in denial, which can sign up to Kyoto and then do nothing as greenhouse

gas emissions from 1990 to 2007 increase 39.2 percent for energy and 35 percent for industrial processes. Where is the madness here?

Ignorance goes nowhere. A people which faces the world with eyes wide open can gain a national spirit and decide to work towards a satisfying and full life for all, even in the face of adversity, rather than put up with the massive inequality introduced in 1984 and still touted as the way forward.

Dr John Robinson is an applied mathematician. Over the past 35 years he has expanded his interests to include economics, sociology, ecology and history, in order to inform his understanding of the global and national future.

Graphs are reproduced with permission from Graham M Turner 2008: *A comparison of The Limits to Growth with 30 years of reality*, *Global Environmental Change* 18(3): 397-411.



Digital Photography and the Paranormal

James Gilberd

More 'ghosts' than ever are appearing in photos – thanks to digital cameras. This article is based on a presentation to the NZ Skeptics 2009 conference in Wellington, 26 September.

SINCE the beginnings of photography in the mid-nineteenth century people have used the medium to capture images of ghosts, both naïvely and as a hoax for commercial gain. Until the arrival of roll film late in the nineteenth century, which was more light-sensitive than earlier wet and dry plates, long exposure times sometimes resulted in spectral-looking figures accidentally or intentionally appearing in photographs. Nearly all early photographs showing alleged ghosts can be explained by double exposure, long exposure, or they are recordings of staged scenes – contrivances such as the cutout fairies at the bottom of the garden in Cottingley.

As cameras became more foolproof, with mechanisms to eliminate double exposure etc, accidental ghosts in photographs became scarce. During the 1990s I carried a compact 35mm camera (an Olympus Mju-1) and shot more than five thousand photos with it. At the time I was not looking for paranormal effects such as those described below, but a quick review showed only

very few strange occurrences in the photos. This century digital compact cameras have become ubiquitous and supposed ghost photos are also now common. There is a connection.

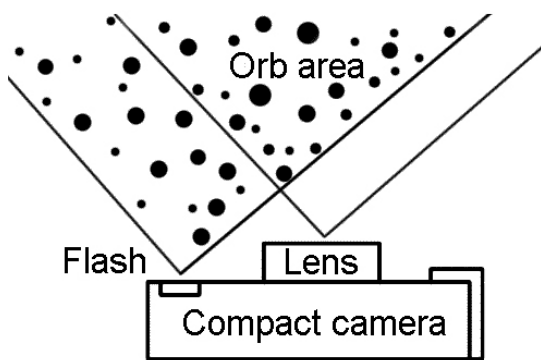
Design-wise, the basic layout of a compact digital camera isn't much different to a compact 35mm film camera; both have a lens with a minimum focal length a little shorter than standard¹ and a flash positioned close to the lens. The main differences are the lens focal lengths and the image recording medium.

A typical 35mm film camera has a semi-wide angle lens (which may also zoom well into the telephoto range but we're not much interested in that) in the range of 28mm-38mm. A standard lens for the format is about 45mm. A digital compact camera is more likely to have a lens focal length starting out in the range of 4mm to 7mm. A 5mm lens is typical, and at a maximum aperture of around f2.8, the maximum working aperture of the lens can be less than 2mm and the stopped down aperture less

than 0.5mm. (As a comparison, the maximum aperture of my Mju-1 was 35mm/f3.5=10mm.) These tiny apertures allow things very close to the lens to be captured by the recording medium (albeit out of focus) even when the lens is focussed on medium-long distance.

The most common photographic anomaly that is mistakenly held up as evidence of paranormal activity is the orb. While there are natural objects that are visible to the unaided eye and may photograph as orbs – that is, any small or point source light, either close by such as a lit cigarette or burning marsh gas, or distant such as the planet Venus – there are other types of orbs that only show up in photographs. You don't see them but the camera does. These are mainly caused by airborne dust, moisture droplets, or tiny insects. In the dark, they are visible only briefly (for a millisecond or so) when illuminated by the camera flash. Dust is the most common cause of orbs in photographs, captured as an out-of-focus glow as it passes within centimetres

1. A standard lens has a focal length close to the diagonal measurement of the film or digital sensor. This lens renders objects in correct proportion according to their distance – a neutral perspective, neither compressed (as by longer focal length, or 'telephoto' lenses) nor exaggerated (as by shorter focal length, wide-angle lenses).



The placing of the flash close to the short focal length lens of a digital camera means that dust motes can be illuminated as 'orbs'.

of the camera lens, in the zone covered by the flash.

The diagram above shows how a compact digital camera, having its flash close to its short focal length lens, is able to photograph dust orbs. Most 35mm cameras

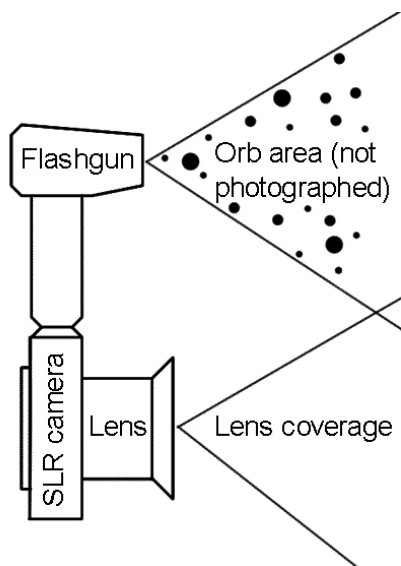
the lens (above) and also have larger image sensors and longer focal-length lenses which are more like a 35mm camera.

Note: a built-in flash on a digital SLR, while being closer to the lens axis, is set some distance back from the front of the lens, so the dust particles it illuminates are also out of view of the lens; they are behind it.

Specifically, a dust orb is an image of the electronic flash reflected by a mote, out of focus and appearing at the film plane as a circular image the same shape as the lens at full aperture.

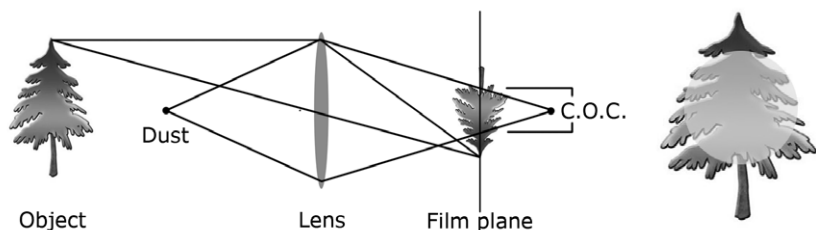
subject, a tree, and how the out-of-focus orb appears over the tree in the processed image, appearing the size of its Circle of Confusion at the film plane (or, in this case, digital imaging plane).

Other common photographic anomalies which are sometimes assumed to be paranormal are caused by lens flare, internal reflections, dirty lenses and objects in front of the lens. These can all occur in any type of camera. What they have in common (and this includes dust orbs), is that the phenomena exist only in the camera: they will not be seen with the unaided eye. Most of the time, photographs that are held up as paranormal were



SLR cameras rarely photograph orbs.

won't do this because the lens is too long in focal length to be able to create a small enough Circle of Confusion² image of the dust and larger Single Lens Reflex (SLR)-type cameras tend to have the flash positioned farther from



A dust mote in the foreground appears as an orb on a photo.

Most of the time when a compact camera takes a flash photo the aperture blades automatically stay out of the way to allow the widest possible lens opening. If the aperture blades close down at all, they create a diamond-shaped opening and any dust orb then becomes triangular, an effect predicted by this theory of dust orbs.

The diagram above shows a dust mote much closer to the camera lens than the focussed

taken when nothing apparently paranormal was suspected: the anomalous effect was only noticed later upon reviewing the images.

Another confusing aspect of photographic anomalies is the loss of sense of scale, caused by the reduction of the 3D world to a 2D photograph. In the photo opposite, it appears the baby is looking at the orb, but actually the dust particle causing the orb is centimetres from the lens and

2. Circle of Confusion (COC) is a term in optics for the image of a point of light that is in or out of focus at the imaging plane of a lens. Each point of an object forms an image circle of a diameter relative to its degree of sharp focus, with an in-focus point forming a tiny COC that effectively appears as a point. An Infinite number of larger, overlapping COCs form the blurry (unfocussed) areas of an image. This is the basis of Depth of Field in photography.

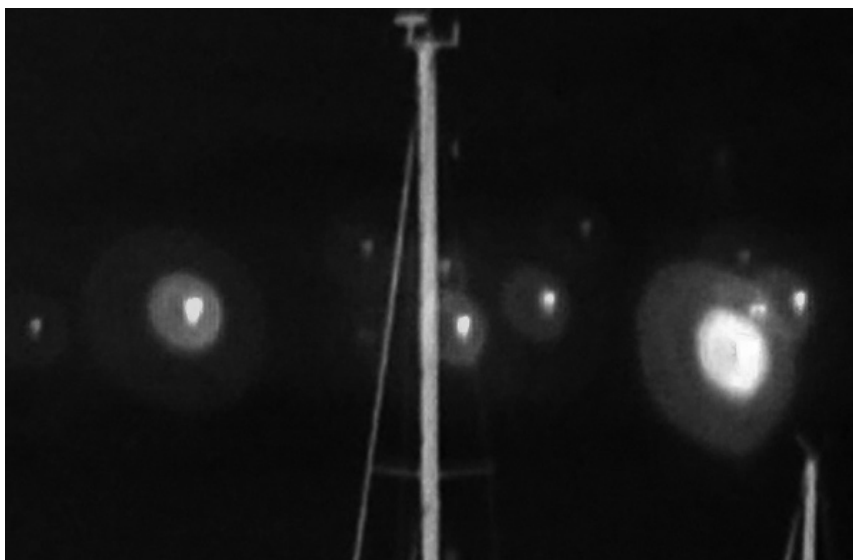


What's that? Orbs can, by coincidence, sometimes appear to interact with objects or people in a photo.

the baby is looking at something else out of frame.

A variation on this is when someone senses the presence of a ghost and responds by taking a photograph. If a dust orb appears in the photo it may be assumed to be a visual representation or manifestation of the spiritual entity. Naïve paranormal investigators and other credulous types get terribly excited when this happens, and it often does during a ghost hunt. And ghost hunting is about the only type of activity that involves wandering around in the dark taking photos of nothing in particular. Now that digital cameras have large displays, photographers using the cameras during a paranormal investigation are able to immediately see dust orbs in their photos. If they believe these orbs to be paranormal, the hysteria of the investigators is fed. I've seen it happen. With film cameras and even with older digital cameras having smaller displays or no photo display at all, the orb effect was not usually observed until after the investigation.

Next is an enlarged part of a photo of the Oriental Bay Marina. The ghost lights in the sky are secondary images of light sources elsewhere in the photo, caused by internal reflections in the camera lens.



Lights in the sky: internal reflections can produce strange effects.

While operating a camera in the dark it is easy to make a mistake such as letting the camera strap or something else get in front of the lens, or put a fingerprint on the lens that will cause lens flare later. Use of the camera in the Night Photography

mode will cause light trails from any light source due to the slow shutter speed (usually several seconds), combined with flash. Also, in Night mode a person moving will record as a blur combined with a sharp image from the flash, making it look like a 'mist' is around them.

It is important to remember that a compact digital camera will process an image file before displaying it. While a more serious camera will shoot in Raw (unprocessed) mode, most compact cameras record the image in JPEG form, which is compressed. Cellphone cameras usually apply a lot of file compression to save memory and minimise transmission time. Digital compression creates artefacts, and the effect can be seen in the enlarged photo of the dust orb (page 12). Also, digital sharpening is automatically ap-

plied, which can make a vague blur into a more definite shape, a smear into a human face.

We are all aware of the tendency to want to recognise human faces or figures in random

Psychic and TVNZ join forces to profit from child's disappearance

WHEN *Sensing Murder* psychic Deb Webber announced on TV One's *Breakfast* show that missing Auckland toddler Aisling Symes was in "a ditch, hole" it raised eyebrows all over the place (NZ Herald, 9 October).

Webber was appearing on the show to plug her upcoming nationwide tour – and also the latest series of *Sensing Murder*, screening on the same channel. Later that day TVNZ journalist Amy Kelley asked the police at a press conference how seriously they would take Webber's "information".

TVNZ then approached a friend of the Symes family and subsequently Webber had met them. The state broadcaster seemed to have far too cosy a relationship with the psychic.

TVNZ spokeswoman Andi Brotherston defended the channel's role, saying, "You know what they are doing? They are being human. They have a family out there that are desperate to find their child."

Interestingly, Webber's *Sensing Murder* co-star Kelvin Cruickshank said at a public show in Hamilton (see p. 16) that his spirits had told him to keep clear of the case, because the family were devout Baptists who didn't believe in spiritualism.

It is worth remembering that at the time Webber made these comments (less than 48 hours after Aisling's disappearance)

misadventure seemed the most likely explanation. It was only as time went on that the abduction scenario gained favour. When her body was eventually discovered in a concrete storm-water pipe the Waikato Times (13 October) reported Webber had been "proved correct".

But "ditch" or "hole" covers almost all the likely options – including a shallow grave. Again, the standard psychic's ploy of making a vague statement which is then misremembered as more accurate than it was, paid dividends.

Hunt on for 'panther'

A few years back the annual NZ Skeptics conference heard about reports of big cats in the South Island high country. Now someone has built a trap for the mystery beast (Sunday Star-Times, 13 December).

High country farmer David Wightman says he's never seen the "panther", but others on his 9500ha Winterslow Station in North Canterbury have, on at least four occasions. "Too many people have seen it to doubt what it is – without actually capturing it and doing a DNA test on it, one can only assume it is a black leopard or black panther."

Wightman said he planned to use a live goat to lure the panther into the trap. The panther would be unable to harm the goat because it would be in a separate enclosure, but its bleating should

be enough to attract the cat. There was no evidence of a large predator attacking free-ranging stock, however.

We should apply the skeptical adage, when you hear hoofbeats in the night, think of horses, not of zebras. Big cats have been reported very widely, and sometimes are reported as brown or grey, suggesting that breeding populations of at least two species are involved. Black leopards ('panthers') are rare within their natural range compared to the more common spotted variety, yet no spotted leopards have been sighted roaming free in New Zealand.

Far more likely that the big cats are just that – big cats. Feral domestic cats can grow remarkably large – I once saw one in the Lewis Pass which must have been almost a metre nose to tail – and people are very poor at judging scale at long distances (hmm, maybe that cat wasn't so big after all!).

Scientology 'organised fraud'

The church of Scientology has been branded an "organised fraud" by a French court and fined 600,000 euros (\$1.2m) for preying financially on vulnerable believers (NZ Herald, 28 October).

Judges in the Paris criminal court ordered the church to pay for adverts carrying its findings to be placed in newspapers around the world. It is believed

to be the first time that Scientology has been declared fraudulent by a court in a large, democratic country, although individual scientologists, including its founder L Ron Hubbard, have previously been convicted of fraudulent activities. The Paris decision went further and declared the core claims of Scientology were “fallacious” and designed to “hook” members into paying large amounts of money.

Two French female plaintiffs alleged that, between 1997 and 1999, the Scientology movement persuaded them to pay the equivalent of 21,000 euros and 49,500 euros for treatments to improve their mental and physical health. The two main Scientology bodies in France were put on trial for “systematic use of personality tests of no scientific value... with the sole aim of selling services and products”.

Scientology spokeswoman Agnes Bron said the verdict was the result of an “inquisition of modern times” and that they would appeal.

Science writer wins ruling in libel battle

British science writer Simon Singh, who is being sued for libel by the British Chiropractic Association, is to fight on after a preliminary judgment against him was opened to appeal (The Guardian, 14 October).

Singh was sued after writing an article in the Guardian criticising the association for supporting members who claim that chiropractic treatments can treat children’s colic, sleeping and feeding problems, frequent

ear infections, asthma and prolonged crying.

Singh described the treatments as “bogus” and criticised the BCA for “happily promoting” them.

In May, Mr Justice Eady in the high court ruled on the meaning of the words, saying they implied the BCA was being deliberately dishonest. Singh was initially refused leave to appeal, but Eady’s interpretation was deemed to be open to argument by Lord Justice Laws, who said Eady had risked swinging the balance of rights too far in favour of the right to reputation and against the right to free expression.

Many scientists and science writers have rallied to Singh’s support, claiming that the freedom of scientific opinion is at stake.

“Simon Singh’s battle in this libel case is not only a glaring example of how the law and its interpretation are stifling free expression, it shows how urgent the case for reform has become,” said Jo Glanville, editor of Index on Censorship.

‘Tumour’ thrown at meeting

The hysteria over the Dept of Conservation’s use of brodifacoum to eradicate pests on Rangitoto and Motutapu, reported in last issue’s Newsfront, has continued (NZ Herald, 15 October).

A woman, Donna Bird, was ejected from a 14 October meeting on Auckland’s North Shore after hurling abuse and objects – one of which she claimed was a tumour that had been taken out

of her – at DoC speaker Richard Griffiths. The department were “parasites” and “disease mongers”, she said.

Others at the meeting accused DoC of spreading poison in the gulf, and of being blinded by science. Six dogs died and others became unwell after apparent exposure to tetrodotoxin, a natural marine toxin, on Auckland beaches. Marine organisms, including penguins and dolphins, had also been found dead in the area. Mr Griffiths told the meeting toxicology results ruled out brodifacoum as being responsible. “I’m not sure what else we can say.”

Thief warned of sex change curse

A thief in Auckland may get more than he or she bargained for with a terracotta flower pot taken from a Gulf Harbour home (Rodney Times, 3 December).

The owner says it contains his African witchdoctor grandma’s ashes and is now cursed. In a letter to the Rodney Times, At du Plooy says his grandmother was a sangoma or witchdoctor who died in Africa aged 93. Du Plooy claims to be a medium who keeps in contact with her spirit. While he should be able to trace the pot, through this link, it appears grandma is unfamiliar with the area concerned.

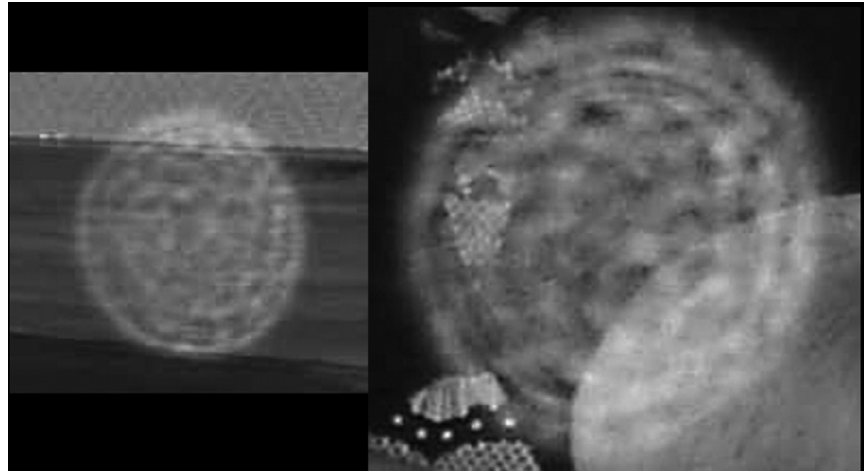
Instead, she has cursed a one kilometre area around the pot with sex-change ions – meaning men may gradually change to women and vice versa. Dumping the contents won’t break the spell, du Plooy says, only its return.

From Page 9

patterns. This is a strong instinct possibly linked to infancy, picking out a parent's face from the surrounding incomprehensible shapes. Once people see human features in a photo it is difficult to convince them that they're looking at a random pattern and just interpreting it as a face. The effect is called *pareidolia*, sometimes referred to as matrixing, or the figure as a simulacrum.

The 'Face in the Middle' photo, below, is an example of pareidolia. The third face appearing between the boy and girl is several background elements combining to produce the simulacrum. The low resolution and large amount of compression in this cellphone photo exacerbate the effect.

While we all know it is easy to fake a ghost photo using in-



Enlarged views of dust orbs, with the internal patterning resulting from lens optics and digital sharpening and compression of the image by the camera. It is easy to imagine these patterns as human or animal faces.

camera methods such as long exposure or multiple exposure, or in post-production using imaging software such as Photoshop, current camera technology makes it hardly necessary. It is far easier to choose to use a compact digital camera or cellphone camera and allow it to produce the anomalous effects automatically: one reason why 'ghost hunters' use them. Then

one can claim ignorance and honestly say they didn't mess with the photo, it is exactly how the camera saw it. Having done a fair amount of ghost hunting myself, it is tempting to use a digital compact camera with the knowledge that while it is highly unlikely an actual ghost will be photographed, a certain number of anomalous photographs will result which will at least spice up the investigation report!³



The 'face in the middle' is one of the more famous ghost photos to have come out of New Zealand in recent years.

In my experience of analysing photographs, I have found that some people are prepared to accept a rational explanation of what they thought may have been a photograph of a paranormal event. Others don't want to hear anything rational; they've made up their mind that there's a ghost in the photo and that's the end of it. Having looked at a large number of photographs that allegedly show ghosts, I haven't yet come across one that doesn't fall into one of the general categories of photographic anomaly referred to above or isn't a probable fake.

3. In Strange Occurrences we use digital photography in much the same way as police photographers, that is, to record details of a location for later reference. Also, long exposures with a digital SLR on a tripod can show things the unaided eye cannot quite make out in low light, such as reflected and/or diffracted light patterns from external light sources that may appear somewhat ghost-like.

While I think that people do have ghost-like experiences (an opinion based mainly on the vast accumulation of published anecdotal evidence but also on some personal experiences that remain unexplained), it is probably not possible to photograph a ghost as such using any known method of photography (including pictures using the EM spectrum outside

visible light). Photographs are not considered hard evidence of anything much these days anyway, because it is widely known that even a moderately skilled photographer or Photoshop operator can create a realistic looking picture of almost any fantasy. In paranormal matters a photograph can at best be considered circumstantial evidence requiring

backup from other types of hard data and witness accounts to lend it evidential weight.

James Gilbert lives in Wellington and receives many alleged paranormal photographs via email through the website www.strange-occurrences.com

He is an experienced professional photographer who is happy to offer analyses of photographs sent in.

culture

Travels in ceremony country

Jim Ring

Some claim our society is too materialistic and lacks spiritual values. But what would it be like to live in a society that rejects materialism?

ARNHEM Land in tropical Australia has a curious status. Although the government has overall responsibility, the indigenous inhabitants are considered to be in control over the area where they live. Outsiders must seek permission to enter a tribal area and a permit is issued on payment of a fee. Twenty years ago the tourist fee was relatively modest, but for a mining concession the fee is substantial as one might expect. We paid \$65 for two of us per day on our first visit, although fees have risen greatly over time.

Very few tourists visit because the fee is for entry only and there are no hotels, restaurants, shops or similar facilities. There are very few roads, or even tracks for four-wheel drive vehicles. However it is possible to fly in and stay at the small mining town of Nhulunbuy within Arnhem Land where there is accommodation, shops and restaurants. No permit is needed provided one stays within the town perimeter.

A tiny number of operators in Nhulunbuy will offer tours with a vehicle and guide, and assistance in obtaining the necessary permits. The tribespeople are generally not unfriendly but shy, and few will attempt much of a conversation even if they have sufficient English. As Australian citizens they are eligible for benefits so individuals have some income though very few have jobs (and those who do are nearly all women). A good deal of their income is spent on alcohol. Getting drunk is not frowned upon within the tribal system. Religion puts a high value on a trance-like state and it is not clear how inebriation differs from this (even to me). Violence when drunk can be punished, especially if somebody is harmed.

On one of our visits, a chief's drunken son had just beaten a woman to death. A meeting of elders had decided that the spearing would take place immediately and that the official trial

(that would presumably result in a conviction for manslaughter) would occur when he got out of hospital. On some previous occasions, the spearing took place when the offender got out of prison and this was thought to be unfair.

Some but not all children go to school. On one tiny island in the Gulf of Carpentaria I met a group of young boys living on their own to prepare for the 'circumcision' ceremony that would admit them to full tribal membership. They had spears and knives (but no clothes), and were living on fish and other seafood that they could catch or collect. Water was in short supply and the gifts of cold cans of soft drink were more than welcome. These boys (around 12 years old at my guess) could speak some English. But they could not reach a consensus as to how long they had been on the island, how long since they had seen an adult, how long they expected to stay or even whether they had ever been

to school. I got the impression that they were not supposed to have any contact with me, but soft drinks overwhelmed any moral inhibitions.

Anthropologists have described this island sequestration of pre-initiates, but I doubt they interviewed the boys on an island. The written descriptions simply add to my scepticism of anthropologists. What I observed differed from the anthropological accounts in a number of important ways.

I have become friendly with one (white) Australian who had been initiated into one tribe and could act as interpreter. However my friendship has not progressed to the stage where I felt able to ask him if he had undergone the severe penile mutilation that the young boys are supposed to endure. The ceremony involves more than simple circumcision as understood by us.

On one trip my friend had recently taken a guy on an eco-tour. They first visited the tribe for permission and found a man apparently completing a painting on bark. In some parts of Australia paintings are made to sell to tourists but these are of variable quality. The tourist was excited at finding an authentic work of art, which he thought beautiful. The artist showed little reluctance to sell, and little interest in a price. But his work was not complete and he insisted it had to be finished. It was agreed that the tourist would return at the end of his visit.

Some days later the guide and tourist returned and the artist produced his now-complete painting. It was nothing like the

one that had been admired and the tourist did not like it. But, explained the artist, the one he had liked was still there, it was just underneath. In fact there were four layers of painting; none of these were intended to be viewed by human eyes. Painting is done to satisfy the artist and please the spirits who are not limited by human sense organs. The artist had some understanding that the tourist might wish to own something that pleased the spirits. He could not understand why the new owner might want to view the painting.



Glen Dillon

There are many rock paintings across the tropical North. However the access to some sites has been restricted or stopped altogether. This is not because the tribes think the paintings may be damaged by tourists, in fact they paint over some old examples. This does not 'damage' them as they are still there for the spirits. But viewing by non-initiates desecrates the site. Actually photography and video desecrates them even more but

we were not aware of this on our earliest trips!

Most tribes are small; one we encountered consisted of about 40 individuals. All receive some assistance from the government and those whose lands contain valuable minerals get money from their leases. In fact the amounts from leases can be enormous when considered against the standard of the material possessions of the tribe, apart from its land.

A giant aluminium company built a village for one tiny tribe on the edge of a huge lagoon called Bradshaw Harbour. There were vast resources for fishing and gathering of food, but after a few years when the senior elder had died, the tribe abandoned their houses and moved to the edge of Nhulunbuy where they could camp within easy access to alcohol.

Of course there are outsiders with a mission to help the local people, medics, teachers, social workers and religious enthusiasts, but the curious status of the place allows the locals to determine what kind of help they will accept. These are tribal societies, so it is the elders, ie the older men, who decide.

Most outsiders would like to see the available money spent on material things like housing, hygiene, education, medicine, etc. That is, those things upon which our society puts great value. But the elders put the greatest value on their religion. This involves complex and lengthy 'ceremonies', when a tribe invites its neighbours to a session of feasting and ritual generally lasting many days. In earlier times this

presumably had the practical result of reducing tension and the risk of intertribal war.

Initiated men are called 'warriors' in English translation, even though they may be young teenagers. I have been on a fishing/hunting trip with a 'warrior' whose grandmother told me was 13. He carried two spears and a 'throwing stick' (his term) sometimes called an atlatl or woomera by outsiders. However it was a sacred object, no uninitiated person could touch it or even learn its proper name and he did not know any other western names for the object.

We went fishing in one spot; part of our concession was to take along a tribal member. A woman agreed; she would spend her time gathering food on a sacred beach. But she wanted to also take her daughter who she thought had just become fertile. It was necessary also to take a warrior, because a girl not so accompanied would become pregnant by walking on this sacred beach. This had happened to her as a teenager so she was certain it was true. Our guide (in the woman's hearing), explained that the tribespeople were perfectly aware of the connection between sex and pregnancy but they had sex all the time and pregnancy did not always result so some other factor must be involved. I decided this was similar to attitudes in rural Ireland where prayers to the Virgin are thought important in such matters.

Before money was introduced, the cost in resources of putting on a ceremony was considerable relative to the economic status of a tribe. However the number of people who could attend was

limited to those tribes in the vicinity: within walking distance. Generally it is estimated most tribes held a ceremony only once a year, while they probably attended between two and four more, held by their neighbours.

Mining royalties mean that the tribes (though not the individual) have considerable discretionary income and a very large percentage of this is spent on travel costs, to allow the people to attend distant ceremonies and on catering for the greatly enlarged numbers who attend the local ceremony. If sufficient funds allow they may also increase the number of ceremonies held. These days food is purchased as well as gathered, in fact close to a supermarket in Nhulunbuy very little is gathered, while very large amounts of alcoholic drink will be needed.

At first the travel range was increased by four-wheel drive transport, but with unskilled drivers and a complete lack of mechanics for maintenance, these had only a brief useful life. Where mining roads have been installed, ground vehicles may still be of use, but road maintenance is costly and without upkeep no road is likely to survive even a single wet season.

Travel by air is more feasible and tribes now often hire air transport. This makes the whole of Arnhem Land within the range of any tribe living within one day's walk of a bush airstrip.

Outside Arnhem Land, in Western Australia, taxpayers provide subsidy for tribal transport where there are no mining concessions. In 2007 we were at a small, isolated fishing camp

(four anglers) in an uninhabited area when we had a visit from the 'traditional owners' plus social workers and government officials. They came supposedly to see that the region was being looked after properly. There is never any litter around at fishing camps in the Kimberley, so after this group had left one of the guides went round to pick up all the litter they had dropped – mainly cigarette butts.

There was no road access and no place for a landing strip. A helicopter was kept on the ground while the party was visiting. When it came time for them to leave it had developed a fault. Another chopper with a mechanic had to come to examine it, while a third very large machine came to pick up the party (they all had to travel at once instead of being ferried, as night was approaching). None of the visitors had been there before – it is actually Government land – ie public land and it could not support a permanent settlement now or in the recent past.

The main concern of the traditional owners was to ensure that tourist operators did not take people to visit ancient sites and in particular did not photograph, or even view, ancient rock art. Such visitors offended against the traditional spiritual values, but these people expressed no interest in charging fees to allow tourists to do these touristy things.

Jim Ring is a Nelson skeptic.

Further reading:

Spoken Here: Travels Among Threatened Languages. M Abley, 2003.

The Elements of the Aborigine Tradition. James G Cowan, 1992.

On the threshold of a dream

NZ Skeptic editor **David Riddell** finds Kelvin Cruickshank less impressive in person than he appears on *Sensing Murder*. A shorter version of this review appeared in the *Waikato Times* on 9 December 2009.

SENSING Murder has a lot to answer for. As well as cluttering up our television screens with its exploitative and unproductive re-warmings of unsolved murders, it has created three stars on the psychic circuit. Deb Webber, Sue Nicholson and Kelvin Cruickshank all regularly tour New Zealand, Australia and further afield, doing mediumship shows to crowded houses at exorbitant prices.

In early December I was asked by the *Waikato Times* to attend one of Kelvin Cruickshank's performances and write a review. The last two issues of *NZ Skeptic* have carried reports of Cruickshank's and Nicholson's shows, but given the impact these people are having I think there's more to be said. Cruickshank, by the way, told his audience a new series of *Sensing Murder* will go into production early in 2010.

For a skeptic, the most interesting bit came right at the beginning, while he was warming up the crowd. In this segment, Cruickshank spoke of his mediumship as being associated with the mental states prevailing around the fringes of sleep – known to psychologists as hypnagogia, though of course he didn't use the word. I made an

audio recording of the evening and below is a transcription of some of it. This is rendered verbatim, to give an impression of the relaxed, conversational style he adopts with his audience.

"When you go to sleep at night time, you get that nice fluffy zone, where you just start to dribble, you know, like <slurp>, eh that nice feeling, eh. 'Cos that's the nicest feeling, eh, waking up going ... aah. And you know when you're asleep or just about to go to sleep, and you wake up 'cos you snort? And you wake yourself? Well that's where we communicate with our spirit on a clearer basis. That's the ... the in-between zones, it's in the middle. I can't be in the spirit full time, I'm not dead, or in other words I don't live in the spirit world, I'm living in the physical. So to meet them half way, I train myself to stay in that little bit where we dribble and snort. 'Cos that's how it's done, they come to us in our dreams."

Edgar Allan Poe (quoted in *Hypnagogia: the unique state of consciousness between wakefulness and sleep*, by Andreas Mavromatis) wrote of his hypnagogic experiences as:

"...a class of fancies, of exquisite delicacy, which are thought: they seem to me rather psychal than intellectual. They arise in

the soul ... only at its epochs of most intense tranquility ... and at those mere points in time where the confines of the waking world blend with those of the world of dreams. I am aware of these 'fancies' only when I am on the very brink of sleep, with the consciousness that I am so."

Hypnagogic experiences vary enormously from person to person, but some have clear visions which, according to Mavromatis, may include encounters with the dead. If we can take him at his word, Cruickshank seems to be able to enter this state at will, through meditation, and to approach it during his mediumship sessions:

"I can be in this zone, if you like, for a certain period of time. I'm not in spirit as such fully, because I haven't passed away. I'm still living, and so I can meditate and go into this zone here [*indicating on whiteboard*] and I can see my Mum and my Dad and have a real good chit-chat, but for you guys I'm connecting with them half way. Fifty-fifty: if they give me 50, I give them 50, we should make 100. Some days you don't quite get there, but some people are stubborn in spirit – they were stubborn in life, they'll be stubborn in spirit as well."

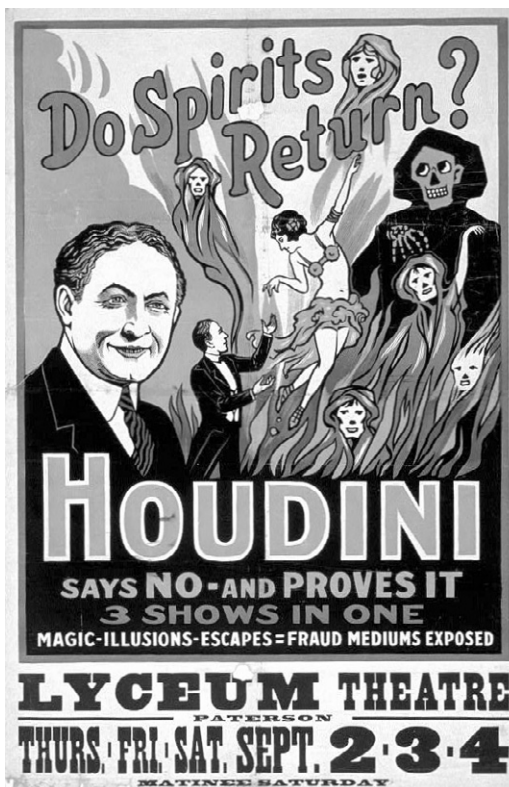
So as a medium, how did he perform? Well, for someone

who is supposed to have access to sources of information the rest of us lack, he certainly asks a lot of questions. He gives every impression of sincerely believing he can do what he claims, but his performance looks very much like a standard cold reading act. He throws out lots of questions, names and general statements which the recipients make sense of from their own personal experience. He would never say directly who a name referred to, but would ask, "Who's Barbara?" and leave the recipient to fill in the gap. Barbara turned out to be the wife's boss.

Almost all the names Cruickshank asked about were very common – John, Dave, Robert (amazingly, this one got no response – what pakeha New Zealander doesn't know a Robert, or have one in their family?), Margaret, Sam, Catherine. The only uncommon one, Gwen (which happens to be my mother's name), also got nothing at first, but he explained that his Auntie Gwen lived in Napier, where it turned out the woman being read had a friend. Sometimes spirit communicates in this way, he said.

Cruickshank would often worry away at a miss, determined to turn it into a hit. A question, "Who's the fisherman?" morphs into something about a couple of goldfish someone's kids had owned many years ago. A comment about Mickey Mouse ears got nothing, nor did Disneyland; in fact there seemed to be nothing in the entire US which had resonance for the woman concerned. In desperation he

wonders if the Mickey Mouse ears could be Playboy bunny ears. Yes, says the woman (in her late 50s), she'd recently bought Playboy sheets, because they were on special. Big laughs all round. But he did less well when he went on an extended commentary about how she should look after herself and upgrade her old shoes. As it happened, the ones she was wearing were brand new.



Ghosts busted: Nothing in Kelvin Cruickshank's show would have been new to Harry Houdini 100 years ago.

On the other hand questions about a new trampoline for the kids, someone who played chess, and many others drew no response and were allowed to lapse. He also fell back on standard cold-readers' responses when an enquiry came up blank, such as "Check your family tree", or "Are you sure about that? 'Cos it's there." It was nothing like his slickly edited *Sensing Murder* performances, where less than 10 minutes of screen time are

extracted from a session which must extend over several hours.

In the nearly-three-hour show there were only a few readings, most of them quite protracted. Generally these would conclude with homilies about the value of family, or maintaining a positive attitude, or a strong sense of self-worth. Repeatedly, he told people their loved ones were watching over them and looking out for them.

There was plenty of laughter, and more than a couple of tears. It's Cruickshank's hits that most of the audience would remember. They will forget the misses, and the fact that they provided most of the details themselves.

No doubt most of the 300-strong audience would have felt the show was worth the \$66 ticket price (that's about \$20,000 – not bad for a night's work). But attend a few of these shows and the money would start to add up. A woman sitting next to my daughter, who accompanied me, had already paid for a more exclusive session with Cruickshank, in a group of 15. On neither that occasion nor the one I attended did she receive any supposed messages from her son, who had died a year before. Given the addictive nature of psychics' messages (see Robin Shepherd's article in *NZ Skeptic* 84) and the number of mediums currently touring (Jeanette Wilson is also still around – see *NZ Skeptic* 73 for more on her) I suspect there are a number of desperate people out there spending more than they can really afford on these events.

A non-remedy for a non-disease

I HAD to wait for my prescription at the pharmacy and while browsing the shelves noticed a new homeopathic remedy for white-tail spider bites. At \$18.40 a small bottle it's money for jam! No, that metaphor will just not work; perhaps money for water would be better? White-tail spider bites have been blamed for a huge range of injuries but the scientific evidence has discounted this attribution. (Those pesky skeptics again...!) Still, I thought it rather amusing to see a 'non remedy' for a 'non disease'.

John Welch
Picton

The printed word – the best communication there is

Readers may be as amused as I was by the following quote from Tim LaHaye:

"The best way to reach the minds of people is the printed page. God chose the printed page to communicate with mankind. So how can you improve on that?"

No respectable skeptic would believe that even an American fundamentalist could be that stupid, so the reference is:

Have a Nice Doomsday, by Nicholas Guyatt: an interview with LaHaye p 275.

Jim Ring
Nelson

This excerpt from an NZ Skeptic article of 20 years ago reviewed an evening with self-styled New Zealand 'magnetic healer' Colin Lambert. Presumably the pseudonym 'Alpha Beta' was used to minimise the chances of legal action should Lambert have considered anything in it defamatory. Lambert died in 2006, but his disciples maintain a website, www.magnetichealers.org.nz, where some of his books and CD's can be purchased, and workshops are promoted.

The spiritual Science of Alpha Beta, healer to the stars

The skeptics having been invited to Mr Beta's lecture, I went along to clutch, if not wave, the flag. I duly arrived at the local spiritualist church, a commanding fading edifice at 14, Gullible St. A chap with a withered leg hobbled up the front steps; things were auguring well. An audience of approximately 100 slowly assembled, 90% women, mostly middle aged.

Mr Beta began the first part of his three part lecture with a long series of slides, providing 'positive proof' of various paranormal goings on. He kicked off with a spirited defence of Philippino psychic surgeons. Various gory slides quickly had the audience glued. Anyone who suspects these Philipinos of trickery is an 'idiot'. An anonymous New Zealand G.P. has carefully examined these photographs and concluded that the surgery 'must be genuine'. An anonymous German eye specialist who doubted that the human eye ball can be removed from its socket and placed on the cheek, still attached, was 'ignorant'. When one puts the question to these 'scoffers'; "How long have you studied this surgery in the Philip-pines?", that always gets them (approving nods and smiles from the audience). The audience marvelled at a shot of an open Bible being held over a patient.

The surgeon wafts the 'healing energy' in the book down into the patient helping the release of particularly stubborn growths. Then a piece of goo, the size of an orange, is flashed onto the screen. "How could anyone hide a thing like that up his sleeve, especially as they always work with their sleeves rolled up?" (positive hums of appreciation). After spending a long time studying these 'wonderfully skilled' healers, Mr Beta has refined their technique to the point where he now completely 'dematerialises', tumours, clots etc and then throws them away, in their still dematerialised state.

Many Hollywood stars have benefited from Mr Beta's ministrations. A slide of the late Lee Marvin surrounded by his many fishing trophies and Mr Beta impressed the audience. So too did a slide of 'old timer' James Coburn. Mr Beta also 'absent healed' actor Martin Sheen over the telephone 'the night before Sheen was shot doing the Kennedy film' (laughter and warmth abounding). Rita Coolidge (Rita who?) and her sister pleaded with Mr Beta to absent heal their father, Dick. Dick was in San Francisco and Mr Beta in Malibu...

David Shanks, NZ Skeptic 14, August 1989.

Owlcat: definitely not coming to a place near you, any time soon

Alison Campbell ponders the evolutionary significance of lolcats..



MAKES me chuckle when I think about it. Not just because Lolcats (www.icanhascheezburger.com) make me LOL (they do), but also because the idea of an owlcat epitomises a standard creationist argument. It goes something like this: if evolution is true, how come there aren't any crocoducks/owlcats/<insert laughable hybrid here>?

This is an example of the 'straw man' argument. No evolutionary biologist would suggest – except in jest – the concept of a crocoduck (wolfsden.wordpress.com/2009/11/21/stupid-creationist-arguments-5-crocoduck/), or an owlcat (no matter how sweet this hypothetical beast might look). This is because ducks and crocodiles, cats and owls,

are all modern species, far removed from any last common ancestor.

In the case of owls and cats, very far removed indeed; mammals and reptiles (including birds) last shared a common ancestor around 300 million years ago, and have followed divergent evolutionary paths since then. Birds appeared on the scene much more recently, evolving from a group of dinosaurs known as maniraptors during the Jurassic period. And (contrary to what this straw-man claim implies) there is a rather nice series of transitional fossils that lets us trace the ancestry of this clade.

Thus true transitional fossils will not look like some fusion of

their modern descendants - there is too much time and too many gradual transitions between them. As Richard Dawkins puts it:

"The demand for a crocoduck is based on the misunderstanding that there should be intermediates between modern animals and other modern animals."

Unfortunately (for the creationist camp) this isn't how it works. Dawkins again (using leopards and rabbits as his pair of modern species):

"You start with any modern animal you like, such as a rabbit, and put her next to her mother and then her mother in a chain that goes back in time a very long way until you hit the common ancestor with some other animal such as a leopard. It would no longer look like a rabbit but more like a shrew."

"You call that the hairpin bend and you turn round and start going forward in time. You just keep taking the fork that leads to the leopard and in time you'll get to the modern animal."

So, while owlcats are cute, and crocoducks giggle-making, any request that evolutionary biology should produce an actual animal simply betrays a profound misunderstanding of how evolution operates.

Alison Campbell is a biology lecturer at Waikato University.

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NZ Skeptic Editor: David Riddell, number8@ihug.co.nz

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