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What Are We To Make of Exceptional Experience?

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Uri Geller bends a spoon during a visit to New Zealand in 1975. (Reproduced from *The Psychology of the Psychic*, 1st ed., by David Marks and Richard Kammann.)

IN THIS paper I discuss some major categories of 'exceptional' or anomalous experiences and how to interpret them. I am particularly interested in the kinds of experiences studied by parapsychologists (ie ESP, PK, and precognition). An important assumption is that the description of an exceptional experience needs to be kept separate from any of its possible interpretations. The brain/mind is structured in such a way that exceptional experiences and their interpretations easily become conflated.

Interpretations of exceptional experience take principally one of two forms: normal or 'N' theory accounts (NIEs) or a paranormal or 'P' theory accounts (PIEs). Analysis of lay accounts of exceptional experience suggests an acceptance of and belief in paranormal

claims ahead of the evidence that is necessary to warrant these claims.

Evidence supporting PIEs appears to be conflicting,

inconsistent and, in other respects, seriously wanting. I argue that PIEs often result from eight special circumstances that pass unnoticed by the original investigators or PIE claimants. These are methodological flaws,

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No Will for Bill?

ANOTHER year, another millennium. We saw the old century out in a very quiet manner, watching Stanley Kubrick's 2001 with friends in Auckland. A few fireworks exploded from the top of the Sky Tower – and then it was bed time. Given that this was the day when the old century really ticked over, there was far less hooplah this time – the cockroaches were especially quiet.

Psychics, however, as always, have generated a fair swag of material to be ignored or fretted over, some of which has already passed its use-by-date.

Scanning the Internet for news of things to come, we turned up an interesting site, www.psychicpathways.com, where anyone can register their prophecies. One Sollog Immanuel Adonai Adoni warned there was going to be an earthquake over 7.0 on the Richter scale, located within five hundred miles of Jerusalem. This event would take place between December 29 and January 1.

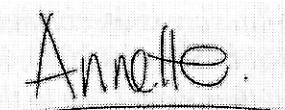
Other contributors reckoned we can look forward to Christ revealing the truth of God before June this year and Demi Moore perishing in a nasty accident. And, apparently, on January 17 thousands will die after eating tainted beef at McDonalds in the North West, near the Microsoft headquarters: this would include Bill Gates, who will die without leaving a will. By now you'll all know if this one worked out: as I write (January 4) it's still in the future.

But these are amateurs. The professional psychics are out there in abundance, usually with a stack of merchandise to peddle. Eklal Kueshana, for example, has a book, *The Ultimate Frontier*, which tells of the establishment in October 2001 of a new nation heralding a Golden Age of spiritual enlightenment. But then, he also warns there will be a cataclysmic reapportionment of Earth's continents in AD 2000.

It's amazing these people don't go back and revise their sites and remove their errors. Do they have no sense of embarrassment? There are still warnings that the Cassini Space Probe will crash to Earth during a fly-by in August 1999, releasing clouds of plutonium into the atmosphere and causing "mega-pandemics" of lung cancer. This is tied to Nostradamus's famous prophecy about a King of Terror falling from the sky in July 1999...sigh.

You can tell the seasoned professionals – people like Nancy Bradley ("who's [sic] accuracy rate is an incredible 99.6%"), who stick to things like (for 2000) "There will be floods, strong winds, tornadoes and severe storms in America" or "Major movie actress will die unexpectedly under strange circumstances." Well, Hedy Lamarr died last year, but no real surprise there. Bradley's list for 2000 included such gems as "Yeltsin to die... Al Gore will be the next president of the United States... extreme health problems may be fatal to Christopher Reeve... Y2K problem – be certain to prepay your insurance to cover the period..." These from a list of 82 predictions – makes you wonder where the figure of 99.6% comes from.

With a new century sparkling and gleaming before us, it would be nice to think people will get wise to such obvious lunacy. But that is a vain hope given human nature.



Contributions

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sensory cues, imperfect randomisation, selection of best cases, subjective validation, inappropriate statistics, and outright deception, trickery or fraud.

The issue will be illustrated with seven specific examples.

1. Remote viewing ability

(1A) SRI series

This series of experiments on a form of ESP called remote viewing ran from 1972 to 1985 under the direction of Dr Harold Puthoff and Russell Targ at the Stanford Research Institute (SRI), and created a huge international interest in the paranormal. Unfortunately, the studies were very badly flawed.

Science separates itself from pseudo-science along a number of dimensions. One of these is accessibility of the data. Following publication of interesting and significant observations it is an accepted scientific practice for researchers to allow colleagues who are doing serious research in the same field to have access to their original data. When researchers consistently refuse to allow colleagues such access, something important is being signalled. Of course data may get lost or destroyed or be difficult or costly to retrieve in the form required. Or they may be classified information or have commercial value that a scientist may wish to exploit prior to their general release.

However, when none of these considerations is applicable, refusal to supply a copy of a dataset leads to the unpleasant inference that something is wrong, that the data do not support what is claimed for them, that the data are an embarrassment following

an extravagant claim that cannot be substantiated.

During the 1970s I made frequent requests to Puthoff and Targ for copies of their remote viewing transcripts. Targ and Puthoff consistently refused to supply this information, as they did to others I know who have made this request. Their only concession was to supply me with a single transcript from the Price series

Science separates itself from pseudo-science along a number of dimensions. One of these is accessibility of the data.

(Experiment 7) published in *Mind-Reach*.

Following publication of *The Psychology of the Psychic*, I conducted a 'remote judging' exercise with the Hammid series of remote viewing experiments. The three remote judges had access only to the cues provided in the Hammid transcripts together with the target lists and the map provided to the SRI judge. No site visits were possible and none of the descriptive material from the SRI transcripts was available. A total of 24 cues was found in six Hammid transcripts.

The claim that the Hammid target list given to Arthur Hastings was randomised is also doubtful. It actually depends on which list one is talking about, because, although the SRI researchers were unwilling to admit this, no less than *three* listings of targets in the Hammid series were given to the judge. "*I received three target lists*" (letter from Hastings, May 26, 1977). One of these lists was randomised; this is the one cited

by Puthoff as *the* (implying only) target list given to the judge. The other two lists provided by SRI (described in detail by Hastings in his letter to me of May 26, 1977) were not random.

Contrary to Targ and Puthoff's claims, the quality of the subjects' descriptions is extremely poor and, without the cues, cannot be matched against the targets. Had cue-less matching been possible, T and P would not have needed to leave these obvious clues in the transcripts in the first place.

Targ, Puthoff and Targ (1980) claimed to have conducted a re-judging of the Price series *with all of the cues removed from the transcripts*. After asking Puthoff for a set of the edited transcripts on multiple occasions over three years, they were eventually sent to a colleague Dr Chris Scott. On inspecting these supposedly "edited" transcripts, it was readily apparent that *many obvious cues were still present* (Marks & Scott, 1986). The little remaining credibility for Targ and Puthoff had now been absolutely and irrevocably destroyed.

(1B) SAIC or Star Gate series.

This series of remote viewing studies ran from 1985 until 1995 and was directed by Dr Edwin May. The Star Gate RV series consisted of three projects: (1) "Operations" using remote viewers stationed at Fort Meade, Maryland, to collect intelligence; (2) "Research and Development", the laboratory research conducted at SRI and later at SAIC; (3) "Foreign Assessment" focused on gathering intelligence on what potential enemies were doing in the area of parapsychology.

Much of the information about Operations and Foreign Assessment remains classified although many ex-military remote viewers have established private businesses that offer remote viewing services. They are responsible for a lot of hype in the media, in their books and on their WebPages.

The CIA carried out a review of the SAIC program in 1995 which was aimed at determining: (a) whether Star Gate had any long-term practical value for the intelligence community, and (b) if it did, what changes should be made to enhance the value of remote viewing research. The review reached the following conclusions:

1. "A statistically significant effect has been observed in the recent laboratory experiments of remote viewing. However, the existence of a statistically significant effect did not lead both reviewers to the conclusion that this research program has provided an unequivocal demonstration that remote viewing exists. A statistically significant effect might result either from the existence of the phenomenon, or, alternatively, to methodological artefacts or other alternative explanations for the observed effects."

2. "The experimental research conducted as part of the current program does not unambiguously support the interpretation of the

results in terms of a paranormal phenomenon."

The principal reason for this conclusion is that only one judge, who happened to be the Principal Investigator, was used in assessing matches throughout these experimental studies. The CIA report concluded:

"As a consequence, there is no evidence for agreement across independent judges as to the accuracy of the remote viewings. Failure to provide evidence that independent judges arrive at similar conclusions makes it difficult to unambiguously determine whether the observed effects can be attributed to the remote viewers' (paranormal) ability, to the ability of the judge to interpret ambiguous information, or to the combination or interaction of the viewers and the judge. Furthermore, given the Principal Investigator's familiarity with the viewers, the target set, and the experimental procedures, it is possible that subtle, unintentional factors may have influenced the results obtained in these studies."

2. Ganzfeld ESP ability

This field is a core part of the parapsychology literature and has been intensively researched in at least ten different laboratories in the USA and Europe for about the same length of time as remote viewing. The ganzfeld research has gained an almost symbolic

importance for the parapsychology field as the best case for the existence of psi. The results obtained in the ganzfeld allegedly appeared in multiple studies by different investigators with subjects who were not especially selected or gifted as psychics. It is the main focus for discussions of parapsychology in a leading psychology journal (*Psychological Bulletin*) and it has increasingly been viewed as a genuine and uncontroversial finding. Until now, that is.

Ganzfeld experiments involve two participants, a sender and a receiver, located in separate rooms. The receiver is in a ganzfeld that is usually created by wearing translucent Ping-Pong ball halves taped over the eyes and a red floodlight directed towards the eyes, producing an undifferentiated visual field. White noise is played through headphones. To reduce internal "noise" in the form of somatic sensations, the receiver may be taken through a series of progressive relaxation exercises. The term 'ganzfeld', a German word meaning 'total field', refers to the mild sensory habituation created by the environment described.

The sender is shown a target picture or video clip that has been randomly selected from a large pool of possible targets. The sender is asked to try to send the information about the picture or



video to the receiver by psychic means (telepathy). The receiver is asked to receive this information and to report any images, thoughts or feelings that occur during the trial. The receiver is then given a randomly ordered set of four stimuli, the target plus three decoys. If the receiver chooses the correct target it is recorded as a hit. The mean chance expectation (MCE) is 25 percent: a statistically significant deviation above MCE is suggestive of an anomalous effect consistent with psi.

The ganzfeld research is unique in parapsychology for the way in which believers and sceptics have worked together to agree a protocol for properly controlled investigation (Hyman & Honorton, 1986). This resulted from the leadership of two principal figures, the late Charles Honorton and Ray Hyman. One of the progressive outcomes of Hyman and Honorton's joint communiqué was a set of guidelines concerning methodology. Hopefully these guidelines for ganzfeld research were implemented and the quality of studies improved as a consequence.

Not only should the methodology have improved beyond the earlier studies, which were heavily flawed (Hyman, 1985), but the results should not be dependent on a small band of investigators: when a small number of well-insulated people and organisations are responsible for a program, the research can go badly off the rails.

Milton and Wiseman (1999) systematically reviewed the ganzfeld literature since the Hyman/Honorton joint communiqué, 1987 to February 1997. They found 30 studies in 14 papers by 10 principal authors from seven

laboratories; the database included 1,198 ganzfeld trials. They calculated a probability score across all 30 studies of only .24, meaning that the ganzfeld effect was so small it did not differ statistically from chance. Milton and Wiseman's study, published in the prestigious *Psychological Bulletin*, has already created a few waves in the parapsychology pond.

Startling Results

As if this result was not damaging enough, the investigators went on to critically examine three of five other claims made by Bem and Honorton (1994) and to determine their methodological rigour. What they found is even more startling. The new ganzfeld studies, 1987-97, examined three out of five variables that Bem and Honorton had suggested were statistically related to high psi scoring rates in the autoganzfeld studies. These three variables were:

1. Trials with dynamic targets (videos) had been more successful than trials with static targets.
2. Novices who reported prior psi experiences in everyday life scored more highly than those who did not.
3. Novices who reported studying a mental discipline such as meditation or yoga scored more highly than people who did not.

Milton and Wiseman's analysis found only one of these variables to be significant of the new studies (number 2). However when they looked into the original studies examined by Bem and Honorton (1994) they discovered that there appeared to be no good evidence to support this in the first place. The two papers in

which this 'novices with mental training' effect was allegedly found contained one non-significant effect (Honorton & Schecter, 1986) and one reversed effect (Honorton, 1997). The same problem appeared in respect of another of Bem and Honorton's 'discoveries' about psi, that high scoring novices were also high on Feeling and Perception on the Myers-Briggs Type Indicator (Briggs & Myers, 1957). This was another 'discovery' that appeared in the first study and then disappeared in the second.

Milton (1999) extended the meta-analysis to include nine further well-controlled ganzfeld studies run between February 1997 to March 1999. This longer series of 39 studies managed to reach significance ($p = .011$) but, when a single highly significant study by Dalton (1997) was excluded, the Stouffer z score was only 1.45 and $p = .074$ (not significant). Thus, there is no evidence of a consistently replicable ganzfeld effect across a 12-year period of well-controlled ganzfeld research. One or two strikingly significant studies appear now and then but this does not constitute replication. The occurrence of one highly significant study in a general run of non-significant studies in fact sets alarm bells ringing. Dalton's (1997) study with an effect size that is significantly higher than the general run suggests the need for an in-depth investigation of Dalton's protocols.

In addition to the non-significant meta-analyses, criticisms of studies included by Bem and Honorton have also arisen. These are:

Inadequate randomisation of targets and judging sets (Hyman, 1994)

Possible sensory leakage of target information (Wiseman et al, 1996)

Lack of replication (Milton & Wiseman, 1999)

3. Ability to detect unseen staring

Rupert Sheldrake (1994) proposed an Alice Through the Looking Glass vision of things that might be so but probably are not. He advocates the collective participation of non-scientists who have the "freedom to explore new areas of research," and promotes a radically new theory of perception. We do not see images of things inside our brains, he maintains, the images may be outside us: "Vision may involve a two-way process, an inward movement of light and an outward projection of mental images."

This process of outward projection has some interesting implications. If our minds reach out and "touch" things, then we may affect what we look at. For example, when we stare at somebody from behind s/he may be able to feel that we are staring on the back of his/her neck. Titchener (1898) described the feeling as "a state of unpleasant tingling, which gathers in volume and intensity until a movement which shall relieve it becomes inevitable" (p. 895). Colwell, Schroeder and Sladen (2000) have recently reviewed the literature on psychic staring and carried out some empirical tests.

The idea that 'unseen' staring can be detected has been supported in the following research with incidence rates as high as 68-86% (Coover, 1913), 74% (Williams, 1983) and 92% (Braud, Shafer & Andrews, 1993). Titchener rejected the idea that the staring effect was based on telepathy and suggested the hypothesis that the eye is attracted to movement and the starrer's gaze is therefore attracted to the staree's head turning in his direction.

The fact that starees can guess when staring is occurring at above chance levels demonstrates nothing other than an ability to notice patterns. This is a low-level ability that even a mouse could manage.

Sheldrake (1994) has conducted new experiments on the staring phenomenon and encouraged school children and other members of the public to participate in his research program. Experimental kits can be downloaded from the New Scientist Web Site including an interesting list of 24 'random' sequences for use in experimental trials. Sheldrake suggests that each child in a group is tested with a different sequence or use sequences determined by tosses of a coin. The results are being compiled by Sheldrake into a pooled data set.

A colleague, John Colwell, decided to put the Sheldrake findings to rigorous test under controlled laboratory conditions (Colwell et al, 2000). On the basis of Sheldrake's observations, it was decided to investigate the staring effect both with and without feedback. Colwell's team carried out two experiments. The

results of the first experiment suggested that the subjects in the staring research are able to score above chance as a consequence of being able to learn the non-random patterns in the sequences using the feedback. The tendency of the participants to show negative recency by avoiding multiple repetitions was well matched by Sheldrake's sequences that showed exactly the same property. The fact that starees can guess when staring is occurring

at above chance levels therefore demonstrates nothing other than an ability to notice patterns. This is a low-level ability that even a mouse could manage.

John Colwell and his team repeated the experiment using 10 properly randomised sequences taken from random number tables instead of Sheldrake's non-random sets. The results support the hypothesis that the improvement in accuracy during staring episodes observed in Experiment One was due to pattern learning. When no feedback was provided and pattern learning was blocked, no ability to detect staring was observed and also no learning.

4. Pets' ESP ability

Are animals psychic? Since time immemorial human beings have attributed supernatural powers to animals. The latest example of a long tradition of paranormal claims on behalf of our animal friends is the 'psychic pet'. For example, a pet dog is claimed to be able to use psychic powers to detect when its owner is returning home. This has been the subject of Sheldrake's (1999) *Dogs that Know When Their Owners Are Coming Home*. Sheldrake

believes that a dog called Jaytee uses its 'sixth sense' of telepathy to determine its owner Pamela Smart's decision to return home.

According to Sheldrake, many pet owners claim the ability in their pets to know when a member of the household is about to come home. The dog goes and waits for the owner at a door or window, in a driveway, or even at a bus stop.

Sheldrake claims that on 100 different occasions between May 1994 and February 1995 when Pamela left Jaytee with her parents and went out, 85 times Jaytee reacted by going to the French window before Pamela returned, usually at least 10 minutes in advance of Pamela's decision to set off for home. The anticipatory behaviour occurred regardless of distance or vehicle used. However, as Sheldrake acknowledges, the 'anticipatory signalling' behaviour of Jaytee could have been cued by the expectations of Pam's parents William and Muriel Smart as they consciously or unconsciously cued the dog that Pam would be home soon. It was necessary to conduct trials in which Pam set off for home at randomly selected times that were unknown to William and Muriel.

The story took an interesting twist in 1995 when Rupert Sheldrake (RS) invited Richard Wiseman to investigate Jaytee (Wiseman, Smith and Milton, 1998). Richard Wiseman's team proposed eight normal explanations for the 'psychic pet' phenomenon that controlled studies would need to take into account, including response to routine, sensory cueing, and selective memory.

Wiseman conducted four studies with the full co-operation of

Pamela Smart and Sheldrake, based on the above safeguards and precautions. In none of these studies did Jaytee detect accurately when PS set off to return home. If this pet dog had any psychic ability at all, it did not appear in this study.

Rupert Sheldrake (1999) reports a series of observations carried out in a pre-planned series of 12 'experiments' in which Jaytee's behaviour was recorded throughout Pam's absences on time-recorded videotape. In these trials Pam came home at randomly selected times that were not known to her in advance. A third party (usually Sheldrake) selected the return time and beeped Pam on a pager.

The resulting observations were analysed in two ways. First, by plotting the percentage of time that JT spent by the window for three periods:

1. The first ten minutes following the bleep: 55%
2. The 10-minute period prior to PS's return: 23%
3. The main period when PS was absent prior to the pre-return period that varied between 110 and 150 minutes: 4%.

It would be a common sense interpretation of Sheldrake's data to assume that JT could learn the timing of PS's returns. This is exactly what happens. The results of Sheldrake's tests are therefore not convincing. Why Sheldrake chose to use a pre-arranged bleep period that started between 80 and 170 minutes after PS had left is unclear. This restricted range for the bleep means that the return is more predictable. John Colwell estimated the return periods following the bleep by examining Sheldrake's

plots of the data. He found that PS always returned within a period of 110-200 minutes following her departure, 10 of the returns (83%) occurring during a 40-minute period between 120 and 160 minutes after departure. This means that JT may have learned when PS could be expected home and signalled accordingly. This hypothesis assumes no psychic powers, only the power of memory. The procedures used by Wiseman had allowed the return to occur at any time following PS's departure. This procedure stopped JT from learning a simple routine based on timing similar to the situation that pertained when PS had followed a daily routine of reliable departures and returns.

5. Uri Geller's ESP ability

In turning to claims 5-7 by self-proclaimed psychic Uri Geller, the fact that his claims are unproven is so well known among parapsychologists that we do not need to dwell on them for very long. However they need to be discussed because Geller is still actively involved as a paranormalist and many lay people appear to believe that his claims are genuine. There is only one peer-reviewed article on his ESP abilities; this is the same paper that reported the remote viewing studies carried out at the Stanford Research Institute by Russell Targ and Harold Puthoff (1974).

Like the remote viewing studies, Targ and Puthoff's studies with Geller were very badly flawed. As in the case of remote viewing, however, the flaws were not apparent until in-depth investigations could be carried out into the experimental conditions.

Following visits to the SRI laboratory Dick Kammann and I were able to reveal that the investigators Targ and Puthoff had left Geller unobserved in a chamber which had a hole in the wall stuffed only with cotton wool. An intercom was also available for Geller to listen to the investigators as they chose the targets and produced the stimulus drawings. At least one of the drawings (a bunch of grapes) was placed on a wall in the adjoining room opposite the access hole.

There has never been a single replication of this study. Repeated attempts by the author and others to persuade Geller to participate in laboratory experiments have been rejected. Field observations of Geller's performance have revealed his use of sensory cues available from signals sent by accomplices.

6. Uri Geller's PK ability

Geller's claim to be able to bend metal without touching it is well known. However in spite of his claims, there are no peer-reviewed reports of his alleged PK ability (metal bending, influencing objects at a distance). Field observation shows that Geller can only bend metal in his hands.

7. Uri Geller's clairvoyant ability

A set of 10 trials of a clairvoyance experiment was carried at SRI using a dice in a locked box (Targ & Puthoff, 1974). This study was also seriously flawed because Geller had the time and opportunity to flip open the lid of the box and see the target information. Again there is a lack of replication and field observations of his alleged clairvoyance

ability suggest the use of normal perceptual-motor abilities in the form of signals from an accomplice and other means.

The genesis of P Theory

In the seven examples of Exceptional Experience discussed above, a NIE has proved to be a perfectly adequate explanation making any form of PIE redundant or superfluous. This rather pessimistic conclusion about the validity of PIEs is not purely a negative exercise however. Psychological and statistical studies of Exceptional Experience have yielded an interesting account of how the everyday operation of the processes of attention, perception and decision making promote PIE-thinking even when the alternative and more rational NIE-thinking can do perfectly well with the same experiential data. These analyses have revealed processes that make the genesis and high prevalence of PIEs understandable from a psychological viewpoint.

Subjective validation. This is a powerful effect of belief and selective attention. Subjective validation occurs when support for one's beliefs is found in a piece of evidence independently of any objective support. This process is also known under the term, 'confirmation bias'.

Coincidences as 'odd matches'. There is a compelling and widespread tendency to believe that coincidences cannot occur purely by chance. An 'odd match' is an association between two events that appears to lack a causal explanation. In *The Psychology of the Psychic* (1st ed.) Kammann and I referred to the belief that such odd matches cannot arise by chance as Koestler's Fallacy after the most famous of its propo-

nents. In fact, odd matches can and do occur by chance. 'One-in-a-million' odd matches occur with a probability of precisely one in a million. The problem is that you and I are unaware of the million-minus-one combinations that do not strike us as vivid odd matches.

Assume that at the end of an ordinary day a person can recall 100 distinct events. This gives 4950 pairs of events. In 10 years and 1000 people we have 18 billion pairs of events. This generates 18,000 'one-in-a-million' events, some of which will be very striking.

The numbers of 'one-in-a-million' experiences over the entire human population become impressively large. From the statistical viewpoint, that these experiences happen is inevitable. From a psychological viewpoint, it is equally as inevitable that the individuals concerned will have difficulty dealing with the experience without a fatalistic or paranormal interpretation. If a few exceptional experiences inspire their authors to write about them in their full paranormal regalia (e.g. Koestler, 1972) we have discovered the genesis of parapsychology itself. The reason parapsychologists continue to work in their chosen field is not the often disappointing results they obtain from their formal studies but their compelling personal experiences that have a PIE attached.

References available on request from the editor

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Evolution: The Fossils Say YES!

Warwick Don

The old creationist claim that there are no transitional forms in the fossil record is starting to look a bit tired

A PERENNIAL contention of creationists opposed to evolution is that transitions or intermediates between the major groups (classes) of vertebrates (animals with backbones) do not exist. The most persistent critic of the part played by the fossil record in providing evidence for evolution is Dr Duane Gish of the Institute for Creation Research in the United States. His arguments are expressed in two books, *Evolution: The Fossils Say No!* and the updated version, *Evolution: The Challenge of the Fossil Record*. The aim of this paper is to show that the above contention is without foundation. A classic example of a transitional form (the ancient bird, *Archaeopteryx lithographica*) will be examined, as well as an example of evolutionary transformation, the evolution of ear bones in vertebrates.

Discovered in 1860, one year after publication of the *Origin*, *Archaeopteryx* is of late Jurassic age. About the size of a magpie, it lived some 150 million years ago. The species is represented by seven skeletons and one isolated feather. Close examination reveals a mixture of reptilian and bird features with many more of the former than the latter. (The table lists some of the key features). In fact, two specimens in which the feathers were not immediately recognized were initially misidentified as *Compsognathus*, a small bipedal dinosaur. It is often stated that if

it were not for its feathers, *Archaeopteryx* would be classified as a small dinosaur. A transitional form between major groups is defined as a fossil which possesses a mixture (or a mosaic) of features usually associated with each of the two groups, one set ancestral ('old'), the other derived

example, is characterized by forms in which the mosaic patterns show varying rates of change of specific features in different genera.

Archaeopteryx hit the headlines a few years ago with the allegation that it was a fraud.

Bird features

Feathers (the defining bird feature)

Feathered wings

Reptilian features

Long bony tail

Toothed jaws

Three functional fingers with grasping claws

Clavicle (wishbone) boomerang-shaped as in some dinosaurs

Pelvis more reptilian in shape than in later birds

Table 1. Characteristics of *Archaeopteryx*

('new'). *Archaeopteryx* fits the bill perfectly. Its reptilian ancestry is patently obvious.

But not according to the creationists. In spite of the evidence outlined above and more fully discussed in advanced textbooks, they continue to proclaim that "a bird, is a bird, is a bird". Thus Dr Morris: "The *Archaeopteryx* is a bird – not a reptile-bird transition." And Dr Gish: "It was not a half-way bird, it was a bird". In this regard it should be emphasized that a fossil does not have to be exactly intermediate in its features in order to be considered transitional. A mixture of definitive features, old and new, is sufficient. The period of transition between bony fish and the first amphibians, for

This assertion was made by the astronomer, Sir Fred Hoyle. He claimed that a forger had tampered with the fossilized skeleton of *Compsognathus*, adding impressions of feathers. This prompted scientific testing at the Museum of Natural History in London. Hoyle's view, which must have been welcomed as grist to the anti-evolutionary mill, was proved groundless. The feather impressions were naturally formed. This early bird is still the de luxe example of a transitional form.

Now to a classic example of evolutionary transformation, a process whereby a structure becomes modified over time and changes in its primary function. Mammals

Continued on page 12

Newsfront

Annette Taylor

A Spell Away From School

I WISHED I'd tried this one when I was at Gisborne Girl's High. An Oklahoma student has been suspended from school for casting a spell against a teacher, reports the Dominion (Monday October 30). The American Civil Liberties Union has filed a lawsuit in Tulsa, Oklahoma, on behalf of the student and also charged the school with repeatedly violating her rights by seizing notebooks she used to write horror stories and barring her from drawing or wearing signs of the pagan religion Wicca. No mention was made of how the teacher was faring...

Chinese Herbal Remedies Defended

Chinese doctors are less than impressed by the findings of a study published in Thorax Journal which said their treatments were a waste of money and may not be safe. Wellington doctor Jun Wu said he'd never had problems with side effects in his clinic and English medicine had only been used for 100 years.

"Chinese people have just used herbal medicines for thousands of years and they have been very successful."

The Evening Post (Monday November 6) says the study found none of the herbal treatments used by asthmatics had been proved to work and some could even trigger potentially dangerous reactions.

Medium Help

A friend of Terri King consulted a clairvoyant to try and find out about his disappearance, says the Evening Post (Friday May 4).

Michelle King (no relation) said in Porirua District Court that she showed some of Mr King's belongings to the clairvoyant, who wanted to "feel his energies". These included photographs of another of Mr King's friends, the man who has now been accused of his murder, the court was told. However, what the clairvoyant said to the witness was suppressed by the judge so we don't know how the medium performed...

More To Us Than Computers Made of Meat

The first scientific study of near-death experiences has found evidence to suggest that consciousness or "the soul" can continue to exist after the brain has ceased to function, reports the NZ Herald (Monday October 30).

Based on a year-long study of heart attack survivors at Southampton General Hospital's cardiac unit, the study says that a number of people have almost certainly had near-death experiences. These include seeing bright lights and heavenly beings after they were pronounced clinically dead. Authors Dr Peter Fenwick and Dr Sam Parnia emphasise more research is needed.

During the study period 63 cardiac arrest patients survived and were interviewed within a week. Of those, 56 had no recollection

of their period of unconsciousness. Seven survivors had memories, although only four of those passed the Grayson scale, the strict medical criteria for assessing such experiences. By examining medical records, the researchers said the contention of many critics that near-death experiences were the result of a collapse of brain functions caused by lack of oxygen was highly unlikely. None of those who had experiences had low levels of oxygen. Researchers also ruled out claims that unusual combinations of drugs were to blame because the resuscitation procedure was the same in every case. The Bishop of Basingstoke, the Rt Rev Geoffrey Rowell said: "These near-death experiences counter the materialist view that we are nothing more than computers made of meat."

Have No Fear – The Harmoniser Will Soon Be Here

Fret no more about those harmful radiation emissions – a Mobile Phone Personal Harmoniser will soon be on the market. Created by The Centre for Implosion Research, England, the device is a flat twin spiral of hollow copper containing energized water, which can be placed inside the cover of a mobile phone or carried.

While not being able to block or reduce emissions, the harmoniser strengthens the immune system. Its secret, says The Press (12 November 2000), is based on the simple fact that 70% of every

human is made of water. But wait – there's more. Carrying a harmoniser also protects from general environmental electromagnetic pollution caused by radio transmitters and high-voltage power lines. Mobile phone sales for one British distributor increased by 150% in just three months since the device went on sale there...

Telepathy Trial Draws a Blank

If you've already read David Marks's article, you won't be at all surprised that the world's biggest psychic experiment has failed to come up with any evidence for telepathy (Dominion, January 4). During the course of 10 experiments, several hundred people failed to project a set of images to volunteers in a sealed room several hundred metres away. The trial, by Richard Wiseman, aimed to see whether a large number of people could boost the strength of telepathic signals. Receivers were placed in a ganzfeld state. The last time an ESP experiment was carried out on this scale was during a Grateful Dead concert, 30 years ago. On that occasion it was reported the participants needed little help getting onto the sort of relaxed, out-of-body state required.

Predictions

...and the Evening Post (01-01-01 - just had to write the date that way) reports that babies born on that date will experience a high life. Wellington astrologer Alison Maciver (wisely) warns that high temperatures and knocks to the head will need to be checked out and (don't need to be a brain surgeon to guess this -) she says right

from the start the New Year's babies will make their presence felt and be heard. Here's another gem - "sleep will be necessary for good health." Numerologist Julian Ching said a child with 01-01-01 (got it in again!) as its birthdate would go far in life and would be a decisive, independent leader with above average intelligence.

Black Cats Banned

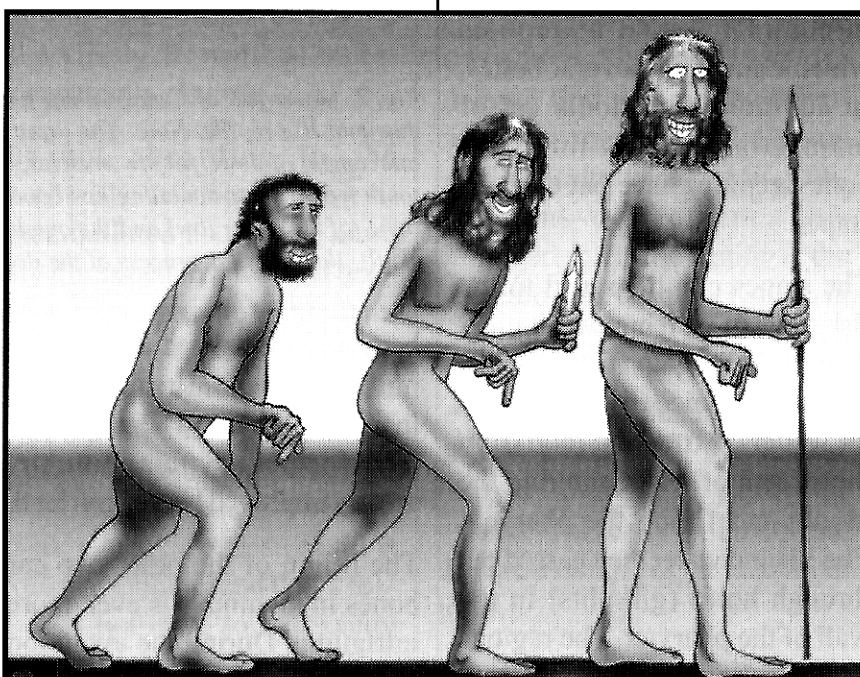
Summer solstice was celebrated with a ceremony and potluck dinner by some of Wellington's witches late last year. About 16 people attended the ceremony but most left their black cats behind. Wiccan Association Wellington chairperson Jude said there was a lot of misunderstanding about modern witches. "...there's no demon worshipping. We like to get out into nature and a lot of us have an interest in herbs. It's very pagan." Sounds like a good excuse for a picnic to me.

Putting Their Bigfoot In It?

Finally, the Evening Post (20 December 2000) tells of a 36 year hunt for Russia's very own "snezhny chelovek" or Bigfoot. He's said to be nearly 3m tall, adores water melon and doesn't smell too good. Dmitri Bayanov has been looking for him for more than three decades. "And I'll keep searching until my dying day," he said. The search began after members of the Soviet Academy of Science advanced the theory that a manlike primate may originally have migrated from Asia to North America.

Science Friction: Where to Get It

In response to the many enquiries about where to buy Doug Edmeades's book, *Science Friction*, reviewed in the last issue: copies are available at Bennetts Bookshops or by writing to Fertiliser Information Services, PO Box 9147, Hamilton.



Early male hominids exhibiting the classic "present-your-right-side-and-place-your-right-leg-forward" stance, the spontaneous adoption of which is a unique characteristic of unclothed members of this genus as a response to the sudden approach of textbook artists.

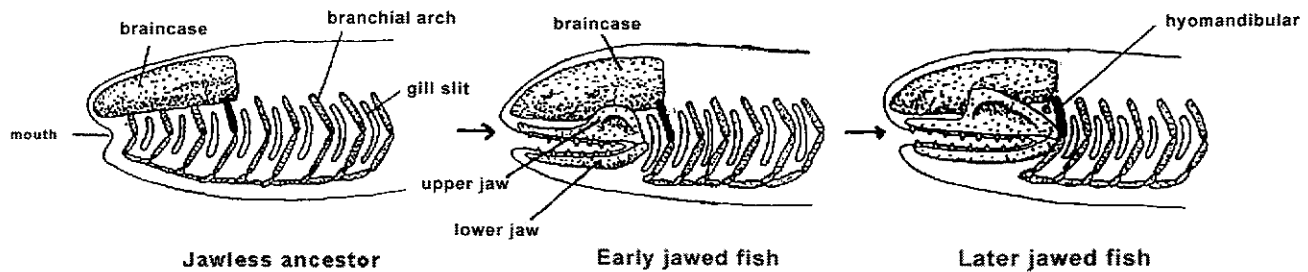


Fig. 1 Side views of the skeleton of the head of an early jawless vertebrate, an early jawed fish and a later fish. Note the hyomandibular which became transformed into the stapes. The predecessors of the hyomandibular (its homologues) are shaded in the jawless and early jawed forms.

Continued from page 9

almost certainly arose from a group of reptiles, aptly named the mammal-like reptiles, some 200 million years ago. The more advanced of these reptiles show trends towards the mammals in a number of features, such as improved locomotion by adopting an upright posture and differentiation of the teeth for the efficient exploitation of food sources. Palaeontologists normally are restricted to skeletal features for classifying a fossil. Soft tissues are seldom fossilized. The lower jaw or mandible in mammals is a single bone (the dentary which carries the teeth), in contrast to that of reptiles which comprises several bones. In addition, the middle ear of mammals contains three ear bones; reptiles have but one, the stapes.

The stapes can be traced to the fish stage of vertebrate evolution. (See fig. 1). The first fishes lacked true jaws. Hence many were filter feeders, extracting food from the stream of water entering the mouth and filling the pharynx. The filtered water then passed out through holes (gill slits) in the wall of the pharynx. The regions between the slits were supported by a basket of linked bones forming the branchial or gill arches. Jaws probably arose from a pair of these arches (another example of transformation). The upper

element of the arch immediately behind the jaws eventually became transformed from an unspecialized part of a gill arch into a prop (the hyomandibular) to support the jaws at their region of articulation. It was thus ideally positioned, given its upper attachment to that region of the braincase which housed the organs of balance and hearing, to

canines enlarged as efficient instruments for capturing and dismembering prey. Fig.2 shows the lower jaw of an advanced mammal-like reptile, *Cynognathus*. For the sake of clarity the articular bone of the lower jaw is shown detached from the quadrate bone of the skull. In life these two bones form the jaw joint of reptiles. The ex-

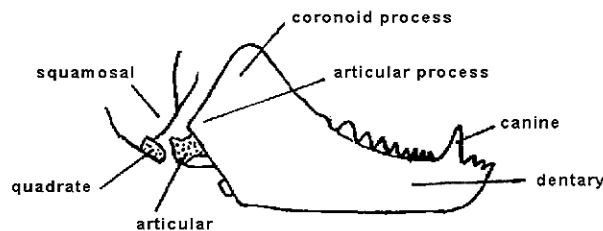


Fig. 2. Lower jaw of *Cynognathus*, an advanced mammal-like reptile. Note: The expanded dentary for the attachment of powerful jaw muscles, and the different tooth types; the articulating jaw bones – the articular bone (of the lower jaw) and the quadrate bone (of the skull); the articular process of the dentary.

become a specialized sound transmitter, a potential realized later in the amphibians. The stapes (the transformed hyomandibular) greatly improved hearing on land.

The origin of the other two ear bones in mammals is even more intriguing. During the evolution of the mammal-like reptiles, the dentary bone in the lower jaw expanded greatly in order to provide greater surface area for the attachment of more powerful jaw muscles. At the same time the

pansion of the dentary involved two regions, the ascending coronoid process and the triangular articular process at the back (not to be confused with the articular bone).

In some mammal-like reptiles the articular process had grown back to the point where it

touched the skull itself. This development created the potential for a new jaw joint formed by the dentary of the lower jaw and the squamosal bone of the skull. In fact, there are several examples of varying degrees of development of the 'new' jaw joint, from rudimentary to fully functional, perfect examples of transitional stages, making the classification of such forms (reptile or mammal?) difficult. Should we be concerned? Not at all. Such 'tricky' forms are to be expected

in evolution. There is a continuity here which negates the creationist thesis of there being no transitional forms in the fossil record.

But the story is not yet over. The 'new' mammalian jaw joint, once it became fully functional, rendered the 'old' reptilian one superfluous. The bones of the 'old'

mammals as small nocturnal animals in a world dominated by large and aggressive dinosaurs.

What has Gish to say on the subject? He refers to the "unbridged gap between reptile and mammal" and questions how the 'intermediates' managed to hear while the changes described above were going on. He seems to have over-

intimately articulated with the stapes bone of the middle ear.

On the above evidence I rest my case. Transitional fossils between major groups of vertebrates do exist and lend powerful support to the reality of evolution.

Warwick Don was senior lecturer in zoology, University of Otago and is an ardent opponent of scientific creationism.

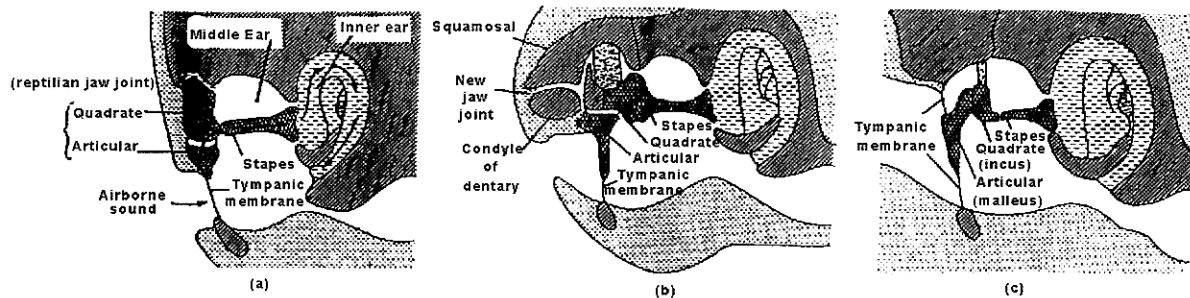


Fig. 3. Diagrams of jaw joint and ear regions of (a) a mammal-like reptile, (b) a transitional form between reptiles and mammals, and (c) an early mammal. Points to note: In (a) the reptilian jaw-joint of quadrate (a skull bone) and articular (a lower jaw bone), and the single ear bone (stapes); in (b) a new (mammalian) jaw-joint has formed and the reptilian hinge bones are reduced and their migration into the middle ear is imminent. In (c) the migration is completed. After Strickberger, 1990.

joint now relieved from a jaw articulation function were free to assume a new primary role. In this case it was not strictly a change of function but an enhancement of an existing minor function – sound transmission. The articular and quadrate bones were already somewhat inefficient conductors of sound to the inner ear in the early land vertebrates. The two bones underwent transformation to become ear bones and joined the stapes or stirrup in the middle ear to form a trio of efficient sound transmitters, greatly improving the conduction and amplification of sound waves from the outer to the inner ear. The quadrate became the incus (anvil) and the articular became the malleus (hammer). (The sequence of changes is depicted in Fig.3). The improvement in hearing is linked to the importance of this faculty (along with smell) in promoting the survival of the first

looked the fact that the stapes was still present. In addition, as was pointed out above, the 'old' jaw joint bones were already sound conductors. He also expresses concern as to how the animals continued to chew while the changes were in progress. But there was never a time when an 'intermediate' was without functional jaws. The sequence of change with respect to jaw joints was: Old > Old + New > New.

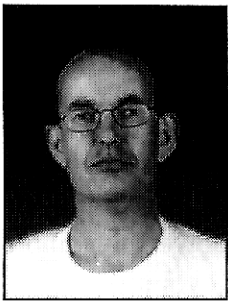
Diarthrognathus epitomises the transition from reptile to mammal. In this animal, not only was the 'old' reptilian joint between a reduced quadrate and articular present, but also a 'new' and fully functional mammalian one. To cite a further example, *Probainognathus* also possessed a double articulation between skull and jaw. Furthermore, the quadrate bone, now only loosely joined to the rest of the skull, was

Reluctant tool of destiny

The gunman who shot Pope John Paul in 1981, Mehmet Ali Agca, says his action was predestined and seeks an early release, according to a report in the Evening Post.

The Pope revealed in June last year that one of the Vatican's most closely guarded secrets foretold the failed attempt on his life. The divine explanation is a godsend for Agca, whose motives have never been fully clarified.

"It is clear, I was predestined," he said from prison. The attack had been prophesied in a message which three Portuguese shepherd children said they had received from the Virgin Mary in apparitions in 1917.



Hokum Locum

John Welch

Quack Aids Remedies

THE PREVALENCE of HIV disease has continued to increase across the African continent and is a major public health concern due to cultural attitudes to sexuality and a degree of poverty which precludes effective pharmacological interventions. A quack Nigerian surgeon has been charging patients US\$1000-1500 for a course of his vaccine which he claims has successfully treated 900 patients for HIV/AIDS. The Nigerian Academy of Sciences deemed the vaccine “untested and potentially dangerous”. The Surgeon’s response has been to allege that “he has been the victim of a conspiracy by transnational pharmaceutical companies, in league with the Nigerian Health Ministry, to steal his ‘wonder vaccine’....” This is the familiar paranoid conspiracy theories of the quack.

HIV/AIDS disease has continued to attract the same sort of quack attention as has terminal cancer, which is not surprising given that both progress to a fatal conclusion. Desperate people are given false hope as well as being robbed of their remaining wealth, which is siphoned away into the pockets of charlatans instead of passing to the descendants of the unfortunate victims. Using the late Petr Skrabanek’s rules (demarcation of the absurd) I would not even bother to test this AIDS “vaccine” and predict with complete confidence that should someone

conduct a test the preparation will be found to be worthless.

Lancet Vol 356 August 5 2000 p 493

Acupuncture wins BMA approval

Like homeopathy practitioners, acupuncturists are irrepressible and in a neat example of Bellman’s fallacy (repetition leads to recognition) have prevailed long enough that they now have the imprimatur of none less than the British Medical Association. The full report is available at the BMA website (www.bma.org.uk) but seems to have been largely motivated by the fact that acupuncture is both widely requested and safe. I wonder if the BMA visited www.quackwatch.com or any of the other skeptical websites.

The study claimed that greater use of acupuncture could save the National Health Service “millions of pounds each year”. There was a call for minimum standards of training. As you will recall from Conference 1998, I modestly set the training standard by showing that a one hour training session was adequate for any lay audience. It may be necessary to gild the lily somewhat by devoting more time and training for a credulous medical audience. (BMJ Vol 321 1 July 2000 p11) Perhaps this would be the time to share with you my memories of my acupuncture training course,

during which the trainer demonstrated a popular alternative medical technique known as kinesthesiology. A patient with an allergy to tomatoes was shown to have reduced muscle strength when exposed to the alleged allergen. The test was an attempt by the examiner to separate the patient’s apposed index finger and thumb. The next step was to have the patient hold a packet containing a vial of depomedrol, a steroid. This was meant to show that the reduced muscle strength would be countered by the contact with this potent steroid. Unfortunately one of the other observers had mischievously removed the steroid vial from the packet and once the “patient improvement” had been triumphantly demonstrated he revealed his subterfuge. The trainer was unfazed and quick as a flash claimed that the improvement was maintained owing to “homeopathic residues on the packet.” It was at this point, as I gazed at the bovine and credulous faces of my fellow course members, that I became a confirmed skeptic.

Canadian Idyll

While recently in Canada for a military conference I suffered a recurring nightmare that I would arrive home to find a peremptory missive from our editor demanding a contribution for the next issue. (I did.) I was therefore relieved to find a supplement in the Vancouver Sun of Nov 16th 2000 outlining a “health show” and

decided this must be worth a few column inches. I will summarise a few key points. Naturopathy/ Naturopathic medicine diverges from allopathic medicine (translation: ordinary "scientific" medicine as practised by JC Welch) only "at that point where professionals in common possession of scientific facts conscientiously disagree on how best to use their shared knowledge in treating patients." Before scoffing, I caution readers to be aware that "there is a common assumption that naturopathic treatments are placebos."

Not surprisingly, there is a wealth of research carried out at Naturopathic Colleges showing that naturopathic remedies are very effective. You can choose from "Khamut", a wheat grown from grain recovered from Tutankhamen's tomb, Light therapy which uses biostimulation to promote efficient cell function, and "Trilovin" - the natural sex formula of the Ancient Greeks.

As a keen scientist I decided to administer some of this product to my wife and I am amazed to report that she has increased pain tolerance, enhancement of the immune system, improved mood and a sense of well being, reduced cholesterol and blood pressure and can now play tennis and ride a bike, but for some reason I'm tired and seem to have a constant headache.

Attention Deficit Hyperactivity Disorder (ADHD)

When I was at school 30 years ago I recall widespread concern that global cooling was going to lead to a new ice age. Now it's global warming! I do not however, recall my fellow students

exhibiting the behaviour alleged by those suffering from ADHD. I have long been suspicious that this is a fad disorder created by doctors in order to explain the exuberant but normal behaviour of some children. I will therefore conclude by quoting in full from the Guardian Weekly Vol 163/20 "Notes and Queries" column. "At school in the 40s I cannot remember pupils being hyperactive, disruptive or showing symptoms similar to ADHD. Is its growth due to a lack of discipline, or to pollution, radiation, junk food, etc.? There are always fashions in mental illnesses. In Freud's day conversion hysteria was popular. Now it is rarely found. In Sydney, where I was working as an educational psychologist, any child with a behavioural or learning disability was likely to be labeled as autistic. Since then this diagnosis has come to be used much more discriminately. Nowadays the psychiatric profession, supported by the drug companies, readily creates fashions in diagnosis. The committee that decides on the contents of the Diagnostic and Statistical Manual of the American Psychiatric Association needs only to ascertain that a group of psychiatrists agrees that a mental disorder exists to include this disorder in the manual. Another committee could reliably agree that the moon is made of green cheese. There have always been children who do not behave in the ways in which adults around them want. A few of these children have actual brain dysfunction. Many more, living under conditions that they find stressful, are constantly distracted by anxiety, and so are hyperactive and disruptive. Other children have parents and teachers who cannot tolerate the exuberant behaviour of ordinary children. The

popularity of the recently created mental disorder ADHD means that many children are diagnosed as ADHD and prescribed Ritalin or other similarly potentially addictive drugs. These drugs' long-term effects on a developing brain are yet to be discovered."

John Welch is a doctor with the Royal New Zealand Air Force. He is temporarily based in Saudi Arabia, but will be returning to us soon.

FORUM

I hate to spoil a good story, especially a skeptical one, but is there something slightly adrift with William Ireland's piece on the Kaikoura UFOs?

He says the camera was looking down at an angle of perhaps 38 degrees, but does not use the figure to explain anything. However, looking down at that angle, at an object 6 km away, implies a height of 4.7 km, or 3.7 km if the distance is measured along the line of sight. But I thought an Argosy typically flew at about 6000 or 8000 feet, or 1.8 - 2.4 km.

The 6 km is given as a minimum, so the discrepancy could be worse than this: if the distance comes from the aircraft radar it should be reasonably reliable, so does this mean the angle is wrong, or my figure for a low-tech aircraft cruising height, or what?

Yours sincerely

Kerry Wood

Health, Wealth and Wellbeing through Critical Thinking and Bluebottle Farming

Bernard Howard reports from the Skeptics' World Convention, Sydney, 10-12 November 2000

JOHN Clarke's gaze had been mercifully averted, so we were spared a TV series "The Congress", showing all that could go wrong in planning an international conference. Heart-thumping, hair-tearing and nail-biting there may have been among members of the organising committee, but to the visitor the Third International Skeptics Congress proceeded very smoothly. There was a report that James Randi had found himself at the point of leaving Beijing without an Australian entry visa, but the revered face and voice arrived as planned. A catastrophe averted; an international skeptics meeting without our GOM is unthinkable.

The three days of the meeting were devoted to, respectively, "Wealth", "Wellbeing", and "Health", broadly interpreted. A brief report cannot mention each of the many speakers, so I apologise in advance to those omitted. On day one, after initial formalities, and an address by Paul Kurtz, Founder and current Chairman of CSICOP, we heard of the many ways the unwary can be separated from their money. Apart from names familiar to skeptics, we heard from two Australians eminent in public affairs. First, Nicholas Cowdery QC is Director of Public Prosecutions for New South Wales, and shared some of his experiences of scams. Apart from some amusing episodes, he told of his astonishment when visiting South Africa to encounter a health campaign entitled "Raping a virgin does not

cure AIDS". The local witch doctors have been advising the ignorant otherwise, to the distress and shame of hundreds of ten year old females. Second, you would not think that anyone would send their life savings to a PO Box in hope of making a fortune investing in a bluebottle farm. And you would expect there could not be a more humourless, dead boring bureaucracy than the Australian Securities and Investments Commission. Both of these assumptions are wrong; the hundreds of Australians tempted by bluebottle farms and similar bizarre schemes were lucky that the PO Box they mailed their cheques to actually belonged to the Commission. Alan Cameron AM, the Chairman of the Commission, explained this imaginative method of assessing people's gullibility. Sadly, it is regularly found to be high. This was my "top spot" of Day One. Randi was in top form in his evening presentation; in addition to showing us the video clips of his "Psychic Surgery" and the exposure of the fraudulent Peter Popoff, which he had shown during his tour of New Zealand, he recounted a very disturbing episode at a meeting of evangelist Benny Hinn.

"Wellbeing" on day two covered many aspects of irrationality and critical thinking; from creationism to nuclear power; the "ten per cent of our brain myth", psychic sleuths, and belief in magic. I liked Roland Seidel's maxim; "Science tells us about the natural world, everything else tells us what it is

like to be human." My highlight of the day was Richard Wiseman's two presentations. As well as having devised many ingenious tests of psychic claims, he is a deft conjuror and showman, and a frequent performer on UK television. He showed several film clips of fake seances, Rupert Sheldrake's "psychic dog" (just a restless dog), and Sai Baba. We know the latter Indian "godman" is merely a conjuror; what was clear from the film is what a bad one he is, a real fumbler. A great contrast to the dazzling displays at the Congress from Bob Steiner, Steve Walker, Peter Rodgers, and Richard Wiseman. Skepticism and magic are natural partners.

Saturday evening's Dinner afloat gave further opportunity for socialising and enjoying Sydney's wonderful harbour. I found Darling Harbour by night a beautiful sight. Later, on a daytime bus tour, I thought it hideous.

And so to day three, "Health". Dietary supplements, herbalism, immunisation, therapeutic touch, veterinary quackery, and, of course, cancer. "Raising a Skeptical Family" by our own Chair-Entity, was received very warmly. We often get the impression that Australians are very ignorant of events in New Zealand, and I was surprised to find that the Liam Williams-Holloway case had been followed closely over there. Once more, the Australian Skeptics demonstrated the respect in which they are held; in

addition to the distinguished visitors we heard on day two, today we heard from Rosemary Stanton, the country's leading nutritionist, Dr Gillian Shenfield, Professor John Dwyer and other prominent medical people. Prof Dwyer's view that "Doctors must take a leadership role in protecting the public from quackery" sat uneasily in my mind with Dr Joe Proietto's survey of a group of medical students, who, having read a hopelessly flawed journal article, were nevertheless prepared to recommend the therapy described.

My interest in the Health sessions meant I had to miss the concurrent session on "Cults & Crypto-religion". This included speakers from China on Qigong and the Falun Gong. These, presented through an interpreter, were criticised afterwards as being nothing more than Chinese Government propaganda. Spouting "the Party line" has not died with the decline of Communism in the West.

The Australian Skeptics' wealthy patron Dick Smith has long been a source of envy. I was surprised to find, advertised in the refreshment area of the Congress, "Dick Smith's Australian Foods". In selling his electronic business and moving into foods, he has jumped a level in the Periodic Table, from a silicon-based product to a carbon-based one. If the biscuits and cakes at morning and afternoon tea were his, I hope we may enjoy them here soon.

This was in every way a most successful event, of which our trans-Tasman friends should be proud. Paul Kurtz commented that, in all the skeptics conventions he had attended, he had never heard so much laughter from the audience.

The Australian Skeptics have the same attitude as that which has inspired us from our foundation, "Take the work seriously, but not ourselves." I am unlikely to be able to travel far to another

international gathering, and I am grateful to our Australian friends for bringing this one within reach.

Bernard Howard is a founding member and former treasurer of the New Zealand Skeptics

Sex Claim Support Group Closes

David McLoughlin

AN ORGANISATION founded in 1994 to help fathers accused of sexually abusing their children is winding down, saying the "epidemic" of allegations has ended thanks to its work.

Cosa (Casualties of Sexual Allegations) was formed by Auckland general practitioner Felicity Goodyear-Smith. It fought a wave of allegations in the 1990s stemming from counselors using the now largely discredited "recovered memory" theory to make adults recall childhood abuse.

"Recovered memory" cases spread across America in the 1980s and then to New Zealand in the 1990s.

Research by academics such as University of Washington in Seattle psychology professor Elizabeth Loftus, who visited New Zealand in August, raised serious doubt that memories "recovered" by such therapy were genuine.

When the number of cases dropped rapidly late last year, Dr Goodyear-Smith resigned as president and Cosa was split into North and South Island branches.

Cosa (North) liaison officer Gordon Waugh said yesterday that only one recovered memory case had been referred to the organization in the past year and it was time to close down. At the height of what he called an epidemic, hundreds of men were seeking Cosa's help each year.

Cosa (North) closed in October. The South Island branch is still going.

Mr Waugh credited the fall in recovered memory allegations to Cosa's work in educating the public, lawyers, politicians and professionals about what he called the flawed beliefs behind the theory.

"A small handful of true believers still cling doggedly to their beliefs, but they have clearly isolated themselves from mainstream knowledge and understanding," he said. "It has been a long battle which should never have been necessary to fight. Sensible people now accept that recovered memories, multiple personality disorder, satanic ritual abuse and all the associated trappings was a dangerous fad with no scientific or common-sense basis."

From The Dominion, Friday October 27



Beer and Skittles

*Next time someone asks you your star sign, think very carefully
before you answer*

Superstitions, Stars and Pigeons

ASTRONOMY is the science of stars and outer space stuff. Not everybody knows this and so astronomers get insulted when they get called astrologers. Astrologers will tell you that astrology is also a science, but is it?

Astrology is about the idea you can make predictions depending on when you were born. But when a baby is born, sometimes it rushes out like a nun from a brothel. Other times it needs surgical removal. Birth can be a few moments or many hours. Now this presents a problem for astrology. Astrologers claim the “moment of birth” is like pushing some cosmic reset button. The position of the planets and stars at that moment is supposed to have a defining effect on our lives. They always ask for the day, the hour and if you know it, the minute of your birth. They plot a chart based on this time and make predictions about your love life or finances.

Getting the time of birth correct is, according to the astrologers, very important. But when exactly is that “moment of birth?” Is it when the head comes out or when the midwife stands back and looks at the clock? Do midwives and doctors do a continuing education paper on astrology so all medical professionals are in agreement as to when birth actually happens? And what about the clocks? Are hospital clocks universally accurate? What about

home births? Are all clocks on the right time? A few minutes fast or slow could make a huge difference. You might go through life thinking you were a Gemini when in fact you were a Taurus. And then there is the problem of daylight saving. Do astrological charts make adjustments for summertime hours?

New Zealand has had a permanent half-hour of daylight saving since World War Two, plus the normal one hour we add on in summer. Do they ever take this into account?

Astrologers often tell us that astrology is a very old method of divination. But what did they do in the days before accurate clocks? Or accurate calendars for that matter. Pope Gregory XIII reformed the old Julian calendar in 1582. In 1752, the British parliament eliminated the third to the thirteenth of September to realign the calendar with the position of the Sun. Gregory removed 5-14 October 1582. But since 1582, our calendar has become misaligned by nearly three hours. Inserting an extra day (Feb 29) every four years doesn't quite correct the error. (The above facts I have carefully misquoted from David Ewing Duncan's book “The Calendar”, Fourth Estate, 1999, London.)

When astrologers ask for your birth time, do they take these things into account? Could astrology be a superstition? And what is a superstition anyway?

If you put a pigeon in a cage and feed it randomly, you can get him to do the strangest things. A computer can be used to control the feeding so that every now and then, a pellet of food drops into the cage. The pigeon doesn't know about random number generators so he starts to wonder if there is any way he can make more pellets fall. The pigeon notices he was scratching his wing when a pellet fell out. After eating the pellet, he thinks to himself, “I wonder if scratching my wing made the pellet fall.” The pigeon proceeds to test the hypothesis. It scratches its wing a few times, and another pellet falls out. Well, that proves it.

The pigeon, not being good at experimental design, doesn't realise this wasn't a very good test. He spends all day, every day, frantically scratching his wing. If he scratches his wing and a pellet doesn't fall out, well, it must be because he didn't do it right.

This is called superstitious behavior. A belief is superstitious if two unrelated events are believed to be related. In this case, the pigeon believes that scratching his wing causes the falling of the pellet.

In the case of astrology, the astrologer thinks there is a relationship between the position of the stars at birth, and the person's personality. But is there a relationship?

If there is no relationship, then astrology is a superstition.

Scientists have tested astrology by drawing up bogus charts and seeing if anyone could notice a difference. Nobody did. Serious astrologers are very rude about the newspaper astrology predictions. Those "sun sign" predictions are considered too general. For a real chart they prefer an "accurate birth time". But they never have an accurate birth time.

Remember that stuff about changing from the Julian to the Gregorian calendars. I think the last country to change over was China in 1949. But according to my mate Stu at the pub, the astrologers are still using the Julian calendar. Why would this matter? Well, when an astrologer asks for your birth time it is so he can determine where the stars and planets were at your birth. But because they are still using the Julian calendar they are about 13 days out. In 1482 AD, the calendar was 10 days out. Since then it has diverged another 3.4 days (approx.) This means that nearly half the people who think they are Aries are not.

Astrologers have been drawing up bogus charts for years without realising it. If the birth time is incorrect then the positions of the stars will be different and so the astrological predictions should be different.

Since birth times used by astrologers are never accurate, then modern astrology predictions should never be accurate. The fact that some people are satisfied with their readings must therefore be good evidence that astrology does not work.

It appears there is no real relationship between the position of

the stars at birth and our personalities. Or at least none that have been detected by astrologers.

Astrology looks like a superstition. It smells like a superstition. It tastes like a superstition.

Try not to step in it.

John Riddell is a Gemini. Possibly.

Say No to DHMO

Dihydrogen monoxide is colorless, odorless, and tasteless, and kills uncounted thousands of people every year. Most deaths are caused by accidental inhalation of the DHMO, but the dangers of dihydrogen monoxide do not end there. Prolonged exposure to its solid form causes severe tissue damage. Symptoms of DHMO ingestion can include excessive sweating and urination, and possibly bloated feeling, nausea, vomiting and body electrolyte imbalance. For those who have become dependent, DHMO withdrawal means certain death.

Dihydrogen monoxide is the major component of acid rain, contributes to the 'greenhouse' effect, may cause severe burns, contributes to the erosion of our natural landscape, accelerates corrosion and rusting of many metals, may cause electrical failures and decreased effectiveness of automobile brakes, and has been found in excised tumors of terminal cancer patients.

CONTAMINATION IS REACHING EPIDEMIC PROPORTIONS

Quantities of DHMO have been found in almost every stream, lake and reservoir around the world. But the pollution is global, and has even been found in Antarctic ice. Every year, DHMO causes millions of dollars in property damage.

Despite the danger, DHMO is often used as an industrial solvent and coolant, in nuclear power plants, in the production of styrofoam, as a fire retardant, in many forms of cruel animal research, and in the distribution of pesticides. Even after washing, produce remains contaminated by this chemical.

Companies dump waste DHMO into rivers and the ocean, and nothing can be done to stop them because this practice is still legal. Impact on wildlife is extreme, and we cannot afford to ignore it any longer!

THE HORROR MUST BE STOPPED

The government has refused to ban the production, distribution or use of this damaging chemical due to its "importance to the economic health of this nation." In fact, the navy and other military organizations are conducting experiments with DHMO, and designing multi-billion dollar devices to control and utilize it during warfare situations. Hundreds of military research facilities receive tons of it through a highly sophisticated underground distribution network. Many store large quantities for later use.

IT'S NOT TOO LATE

Act NOW to prevent further contamination. Find out more about this dangerous chemical. What you don't know CAN hurt you and others throughout the world. Send e-mail to no_dhmo@circus.com or SASE to:

Coalition to Ban DHMO

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